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OVERSIGHT OF THE TRADE ACT OF 1988

HEARING

BEFORE THE

COMMITTEE ON FINANCE
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON THE

STATUS OF THE URUGUAY ROUND

APRIL 20, 1989

(Part 2 of 3)

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OVERSIGHT OF THE TRADE ACT OF 1988

THURSDAY, APRIL 20, 1989

U.S. SENATE,
COMMITTEE ON FINANCE,
Washington, DC.

The hearing was convened, pursuant to notice, at 10:00 a.m. in Room SD-215, Dirksen Senate Office Building, Hon. Lloyd Bentsen (chairman) presiding.

Also present: Senators Baucus, Pryor, Rockefeller, Daschle, and Danforth.

[The press release announcing the hearing follows:]

[Press Release No. H-7, February 7, 1989]

SENATOR BENTSEN ANNOUNCES HEARINGS ON OVERSIGHT OF TRADE ACT OF 1988

WASHINGTON, DC—Senator Lloyd Bentsen (D., Texas), Chairman, said today the Finance Committee will vigorously oversee implementation of the Omnibus Trade Competitiveness Act of 1988.

Bentsen announced the first two oversight hearings have been scheduled for *Wednesday, March 1, 1989, and Thursday, April 20, 1989, at 10:00 a.m.* in room SD-215 of the Dirksen Senate Office Building.

Senator Bentsen said, "The new Trade Act sets some specific requirements on the new Administration with regard to trade policy, and we have reason to be concerned these requirements may not be fully implemented on time."

As example, he cited news reports last month that the White House had taken too long to write rules enforcing a ban on goods from the Toshiba Machine Company of Japan, during which time Toshiba imported millions of dollars of goods into the U.S.; reports that Japan will lobby for less than full enforcement of Section 301 of the Act; concern that the failure of the December review of multilateral trade negotiations in Montreal will slow the Uruguay Round talks past deadlines set in the new law; and failure of the U.S. Treasury to live up to terms of the new law to negotiate on an expedited basis with foreign countries that Treasury has already said are unfairly manipulating their currencies.

OPENING STATEMENT OF THE HON. LLOYD BENTSEN, A U.S. SENATOR FROM TEXAS

The CHAIRMAN. This hearing will come to order.

I know the Ambassador has several conflicting commitments this morning. I appreciate very much the priority she has given to this one.

I understand that there are some meetings where the Secretary of Commerce is standing in for you at the moment, and that you will have to leave shortly.

I scheduled this meeting of the committee as an opportunity to assess the Uruguay Round negotiations in light of the Mid-Term Agreements that have been hammered out in Geneva, some two weeks ago.

As I understand it, agreement was reached in four negotiating groups that had failed to reach agreement in the Montreal sessions in December, and as a result, the talks will go forward with the aim of completing those talks in 1990.

One thing we have planned to explore today is the nature of the commitments made by the United States and the other participating countries in the Mid-Term Agreements.

Most of these agreements, as I understand it, are in framework texts, couched in terms of an agenda for continuing negotiations. The committee will want to work through some of the details of these texts. But, nevertheless, I think that is a major step forward, from what I have been able to see.

The question of further delays in the negotiations is also of concern.

Another concern arises from the recent trip that members of the committee made with me to Europe to talk about Europe 1992 and the negotiations, and that is the question whether there might be some delay in the negotiations by the Europeans while they put in place certain rules for Europe 1992 that might be protectionist, with the thought that those might have to be grandfathered in.

That is why I think it is imperative that we move forward.You have a very ambitious schedule over the next 20 months, considering how many issues have to be resolved in the Uruguay Round.

I also recall that in past instances multilateral negotiations really haven't been brought to an end necessarily by the negotiators; ultimately, Congress had to set a deadline in order to bring them to a conclusion, and that deadline helped put pressure on the negotiators. As always, when you get into negotiations, they wait until the last to bring the tough issues on to the table.

So, we brought about this hearing today in order to see where we are in the mid-term negotiations, and to discuss those matters with witnesses that we will have this morning.

We are just delighted to have you here, Madame Ambassador, to lead off.

STATEMENT OF THE HON. CARLA A. HILLS, U.S. TRADE REPRESENTATIVE

Ambassador Hills. Thank you very much, Mr. Chairman, and members of the committee.

The Chairman. I ask you to proceed because of the limitation of time, and trying to let you make your other commitments.

Ambassador Hills. Thank you very much.

I have filed with this committee a written testimony. Let me just summarize very briefly a few points.

As you mentioned, the ministerial meeting broke up in Montreal last December with 11 framework agreements put on hold pending the resolution of framework agreements in four areas: agriculture, intellectual property, safeguards, and textiles.

What we achieved by our agreement in April in Geneva was a breakthrough. We achieved framework agreements in all four areas, which permits us to go ahead and negotiate now in the 15 areas.

In agriculture, the long-term objective is to provide substantial progressive reductions in agricultural support and protection, which will result in correcting and preventing restrictions and distortions in world agricultural markets.

Prior to the end of this year, participants will advance proposals to achieve that goal, as well as their proposals to harmonize sanitary and phytosanitary regulations and propose methods for improving the multilateral dispute process in agriculture.

The Ministers also agreed to begin implementing the long-term reform in 1991. For the short term, which is defined as the balance of time remaining in the Uruguay Round, 1989–1990, there is agreement to hold overall domestic and export support and protection at or below the current levels. And by October of this year, the Ministers have committed to provide specifics on their intended reductions in support and protection that will be in effect for the year 1990.

In intellectual property, the agreement establishes that the negotiations will cover the establishment of adequate and effective standards for the protection of intellectual property rights, and means for enforcing the standards, and effective and expeditious dispute-settlement procedures.

In textiles, the framework agreement calls for the participants to begin negotiations later this month on the means that will lead to the application of GATT rules to the textiles sector, and, in order to integrate textiles and apparel into GATT, we need to strengthen the relevant GATT rules.

In safeguards, Article XIX contains procedures to provide temporary import relief to domestic industries injured by imports, and that article needs to be clarified. The framework agreement establishes a June deadline for the preparation of a draft text which will serve as a basis for our negotiations during the remainder of the Round.

In my opinion, the tough part lies ahead. We want to work closely with this committee over the next 20 months to assure that we have a successful Uruguay completion.

[Ambassador Hill's prepared statement appears in the appendix.]

The CHAIRMAN. Ambassador Hills, with just 20 months left in the Uruguay round and so much to be done, can we finish it in those 20 months?

Ambassador HILLS. I think so, Mr. Chairman.

The CHAIRMAN. Tell me, what relationship do you see between Europe 1992 and the Uruguay Round? There is a great deal of concern about the 1992 exercise and the extent to which the Europeans are willing to bring their new internal regulations within the new multilateral rules that are written in this Round. What do you see the interplay to be in that regard?

Ambassador HILLS. I see it as being positive. The effort for the 12 nations comprising the European Community to create its single market requires them to deal with many of the issues that we are grappling with as the 96 nations in the Uruguay Round. I think their efforts to harmonize the differences that exist amongst the 12 of them will be positive. So, although the Uruguay Round probably reinforces their efforts and provides some goals in areas of standards, for example, similarly, their exercise in actually drafting directives probably reinforces some goals of the Uruguay Round. So, I see EC 1992 as a positive interplay.

The CHAIRMAN. Well, it has been interesting in our visits with members of the Commission and ministers of trade and prime ministers to see some of the internal conflicts as the Europeans try to resolve these differences, and the forces for protectionism that are trying to achieve their points of view as they come to agreement. I must say it reminds me somewhat of the negotiations we had on our trade bill.

But one of the concerns I have is that we should not try to oversell what is going to be accomplished in the Uruguay Round. I note that four out of six of these television cameras in the hearing room today are Japanese television cameras. I find that quite interesting.

We have a situation where we have been able to reduce our trade imbalance with most other countries by about 30 percent, but the Japanese trade imbalance now is about 45 percent of our total trade deficit. Yet, I don't see that the Uruguay Round with results, in really opening up Japanese markets. I note the very strong support the Japanese are giving to the United States' positions in the Uruguay Round.

Would you comment on whether or not you see any real opening up of Japanese markets as a result of the Uruguay Round?

Ambassador HILLS. One market that should benefit from the Uruguay Round, if we are successful, is the agricultural market. The Japanese have a number of barriers to processed food and to wheat, other grains, and of course rice.

If the agricultural plank——

The CHAIRMAN. Yes, I see some of them are here. [Laughter.]

Ambassador HILLS. If the agricultural plank of the Uruguay Round is adopted, that would be a step forward with the Japanese, assuming that they carry out their responsibilities in the GATT, as I certainly would expect them to do.

The CHAIRMAN. Well, that part is encouraging.

On the other hand, do you see in the Uruguay Round any opening up of manufacturing markets with Japan? Will the Round attack any of those barriers?

Ambassador HILLS. I think so.

The CHAIRMAN. Tell me about it.

Ambassador HILLS. Yes.

You know, we have groups negotiating prohibitions on subsidies to industry. If we were to have worldwide discipline on the quantities of subsidies that would tend to provide greater access and fewer trade distortions. Certainly our ongoing negotiations on tariffs will be helpful; although, it is true that Japan has brought down its tariffs to a relatively low rate, but still there remain some. And so, there are some things that come out of the Uruguay Round which will be helpful with Japan as well as with other nations.

The CHAIRMAN. I have asked for a three-minute limitation on members because Ambassador Hills has to leave early for other commitments, and if we have time we will take a second round.

Senators Rockefeller, then Baucus, then Pryor.

OPENING STATEMENT OF HON. JOHN D. ROCKEFELLER, IV, A U.S. SENATOR FROM WEST VIRGINIA.

Senator Rockefeller. Thank you, Mr. Chairman.

Ambassador Hills, as you know, I have been concerned for some time about the Japanese patent process and its effect on American and other foreign companies with respect to getting patents. The Japanese tend to take six or seven years to issue patents, and, if you are talking about high technology, where there may be a lifespan of two or three years, that is devastating. They are able to obtain our technology through virtually forced cross-licensing. That is, our company says, "Look, I have got to have a patent; let me get it, and I will give you the technology." This has been a 40-year problem with the Japanese.

The Uruguay Round discussions on intellectual property, at least the way I see it, seem to have more of an industrialized world versus Third World approach. Rather than being concerned about problems in Japan, we are looking at the problems we and the Japanese have with respect to the Third World in the area of intellectual property?

I don't object to that, because every forum has to have a different focus and different goals. My question is; what is it that the Japanese are doing in the Uruguay Round regarding intellectual property.

Ambassador Hills. The Japanese have been helpful in the negotiations on intellectual property, and of course we have yet to really begin the substantive negotiations. We have agreed that we will negotiate a set of standards, rules of enforcement, and a dispute mechanism.

You are right, we do have complaints with respect to how the Japanese handle their patent system. Were we to have worldwide discipline in this area, I think we would have a format within which to better handle our disputes.

The Chairman's question I thought was directed more at the industrial sector. I could also mention services as an area where, if we get discipline and liberalization, that will provide benefits in Japan. There are a number of areas where, if we get trade liberalization disciplines in each of the 15 groups: agriculture, intellectual property, textiles, safeguards, services, investment—all of these areas when liberalized and covered with disciplines worldwide I think will enhance our trade with all of our trading partners.

I don't see the Uruguay Round as having a bias, a North-South bias, if you will. It is an intricate negotiation, and there are things that the northern nations want more in the 15 areas, and there are things that the southern nations want more in the 15 areas. But all of them are for some liberalization of trade. All of them benefit from the world trading system, in my opinion.

Senator Rockefeller. Do you feel, therefore, that the Japanese are being as aggressive or more aggressive than you expected in this area of intellectual property rights, so far?

Ambassador Hills. In the Uruguay Round?

Senator Rockefeller. Yes.

Ambassador Hills. Well, they have been very helpful. It has been a difficult area, and we are pleased to have allies where we can have them, and the Japanese have been allies on the intellectual property front.

Senator Rockefeller. Thank you.

Ambassador Hills. Thank you.

The Chairman. Senator Baucus?

OPENING STATEMENT OF HON. MAX BAUCUS, A U.S. SENATOR FROM MONTANA

Senator Baucus. Ambassador, as you know, the GATT today covers precious little trade in goods and services some say 5 percent, some say 7 percent. It covers virtually none of the goods and services that are traded today.

And because each country is in a different economic position, and each country has a different comparative advantage, some are more developed than others, each has its own special character of its economy, realistically isn't it true that when the Uruguay Round is concluded, that it will not cover nearly as many goods and services that are traded in the world today as the United States would like?

What areas will we have to address, in your judgment, outside of the GATT? What unilateral action should we be taking, what bilateral action are you thinking of, what areas would not be covered by the Uruguay Round, that would have to be covered some other way?

For example, invisible trade barriers in Japan. I can't for the life of me see how the GATT is going to in any way address invisible trade barriers. I am asking you, again, what significant areas do you think will not be covered by the GATT? And, second, how do you plan to address them?

Ambassador Hills. Let us be precise about what the GATT covers today and what we would hope it will cover at the end of the Round.

The GATT today covers primarily only trade in goods, not services. So, of course, as the world economy has moved on to be involved in services, intellectual property, high technology, agriculture, and the like, the GATT does not cover those. And that is what we are trying to accomplish in the current Uruguay Round which has 20 more months to run.

When we complete the Uruguay Round and have succeeded in the 15 areas that we want to add to the one area now covered, I think that the world trading system will be greatly benefited; for, not only will we cover those areas I enumerated, but we will also have greater discipline and a mechanism of dispute resolution which will tend to avoid unnecessary trade controversy.

But you are right about invisible barriers. Invisible barriers that we should define as cultural restrictions, a preference of a Japanese to do business with another Japanese, these take time to bring down. But I think it is important, while the Uruguay Round is ongoing, to have clear discussions with the Japanese as to the need for the second-largest market in the world to participate in trade two ways, both by being an exporter but also by being an importer. In my view, that is in the Japanese' best interests.

Senator BAUCUS. But you don't see the Uruguay Round covering invisible barriers, is that correct?

Ambassador HILLS. Well, no. Invisible barriers, by definition, are not something that——

Senator BAUCUS. That is correct.

Second, do you regard invisible barriers as a significant barrier to trade?

Ambassador HILLS. In Japan? Invisible barriers do present a problem.

Senator BAUCUS. So how do you propose we address that significant problem with Japan.

Ambassador HILLS. We would have to deal with that in negotiations with the Japanese, and we are doing so.

Senator BAUCUS. Outside of the Uruguay Round? Independent of it?

Ambassador HILLS. Yes, but the Uruguay Round is helpful, because it stresses the importance of liberalizing the world trading system.

Senator BAUCUS. I don't dispute that.

Ambassador HILLS. But we are talking to the Japanese about that. We have occasions to negotiate with the Japanese about the Uruguay Round. We are participating together in trying to provide liberalization in 15 areas that are not covered by GATT.

When you talk about liberalization and the benefits that liberal trade has to world growth, you necessarily made your partner be more aware of how important it is to remove all barriers, visible and invisible.

So, the Uruguay Round is very reinforcing to our efforts across the board with the Japanese.

Senator BAUCUS. My time is up. Thank you.

The CHAIRMAN. Senator Pryor?

OPENING STATEMENT OF HON. DAVID PRYOR, A U.S. SENATOR FROM ARKANSAS

Senator PRYOR. Mr. Chairman, thank you.

Ambassador Hills, I am sorry I did not get here for your statement. I did read your statement, and I must say, in all due respect, conspicuous by its absence is the lack of reference to the 301 petition relative to soybeans.

In our trip recently with Chairman Bentsen and Senators Baucus and Packwood, we discussed this issue at great length, on every stop, with everyone that we could get to sit still long enough to listen.

They are laughing, because they heard me make this speech many times there.

The European Community right now is subsidizing its average bushel of soybeans $14 per bushel. Our so-called subsidy, which is only a loan rate, is about $4.77. That petition has been filed, a dispute panel over the last 16 months, I believe, has not been appointed. I want to know the status of this case and what you are going to do on July 5 if nothing has been done or no progress has been made.

Ambassador **Hills**. Senator, we will have to take very strong action on July 5 that comports with the 301 mandate if the European Community continues to refuse to permit a panel to be appointed. We have been negotiating for some months, as you know, on this issue. The reason I did not cover the soybean case in my prepared testimony is that it is a bilateral dispute with the European Community, and I was advised that the Uruguay Round was the subject of my written testimony.

We are continuing to talk to the European Community about how important it is to get that panel performing as it must to provide a resolution of this dispute. We have three very difficult disputes with the European Community, and this is one that causes us a great deal of consternation.

Senator **Pryor**. I don't know if you grew up in an agricultural State; but what we are really talking about here is approximately 40 percent of the soybean crop in America which is at stake. We have lost, as you know, about 1.4 billion in sales to the European Community in the recent years.

In addition to this, to really put it down where we can understand it, we are talking about one out of every five rows of soybeans planted in this country that are at issue in this dispute.

Now, I came away from our trip to Europe with the opinion, and this is my own opinion, that the Europeans don't think we are going to do anything July 5, and I hope you can give me some reassurance in the committee this morning that we in fact are.

Ambassador **Hills**. If there is no action by July 5, we will have to take action, because that is required by the statute. I am hopeful that the Europeans understand that. I have certainly said it, probably as many times as you have in the course of your trip.

I want to thank all of the members of the committee that did take the time and trouble to go to Geneva. It really is enormously helpful to have you there so that your resolve is demonstrated to the ministers on the other side of the table. And from all the comments that I heard, it was a very, very important visit that you made. So, I thank you very much.

Senator **Pryor**. Thank you, Ambassador Hills. My time is up.

The **Chairman**. Senator Danforth?

OPENING STATEMENT OF HON. JOHN C. DANFORTH, A U.S. SENATOR FROM MISSOURI

Senator **Danforth**. Ambassador Hills, I want to ask you two related questions about agriculture.

First, has the Administration abandoned its objectives with respect to the elimination of agricultural subsidies? And, second, has anything in the arrangement that has been worked out so far force us to give up the possibility of utilizing the tools that were made available in the 1988 Trade Act in the form of triggered marketing loans?

Ambassador **Hills**. The answer to the first question of whether the United States has given up its ultimate goal of ridding the world of trade-distorting measures in agriculture is an emphatic no. What we have agreed to negotiate is a substantial progressive reduction in trade-distorting measures that would correct and prevent further trade distortions in agriculture. And once you correct and prevent, and in the course of correcting and preventing you have a substantial progressive reduction, you will get to elimination.

As far as your question about 301 and its relationship to the Uruguay Round, they are really quite separate. We have made our trading partners aware that we have unilateral tools that we will use when there is a violation of an agreement or an unfair trade practice. We put that on the table. We would not have to use 301—

Senator DANFORTH. I am talking not so much about 301 but the specific provisions that were put in the legislation relating to agriculture, which allowed the Administration to use the triggered marketing loan or, in the alternative, a super export enhancement program, should there not be sufficient progress in removing unfair agricultural practices.

Ambassador HILLS. As I mentioned in my opening statement, we have long-term goals to get the substantial progressive reduction. And in that instance, in the course of the negotiations over the next 20 months all distortions will be on the table, including the programs that you mentioned.

Senator DANFORTH. The programs are our remedies. In other words, we wrote into the legislation what we could do should there not be sufficient progress. And my question is, have we given up the ability to use these tools if necessary?

Ambassador HILLS. Not at all. In the short-term measures we have only agreed to hold our supports constant, constant in the areas of market access and administered prices. We did not make any agreement with respect to export subsidies which would cover the two programs that you mentioned. So, our hands are untied with respect to the programs that you mentioned during our negotiations of 1989 and 1990.

If we are successful long term, then we would bring down those trade distortions in an orderly manner and as much as our counterparts do.

The CHAIRMAN. Ambassador Hills, you know that the question of natural resource subsidies has been one of the concerns that we have worked on for some time here in the Congress. But we agreed not to do anything unilaterally on this issue in the Trade Act. Instead, we made it an objective for negotiation in the Uruguay Round. Now, the Mid-Term Review, made it quite clear that little progress had been made in that area.

So, insofar as your priorities I would like for you to comment on how aggressively that is being pursued, because it is of concern.

Ambassador HILLS. I suspect the reason that it looks like the Mid-Term Review did not energetically address natural resources is because that area was put on hold in Montreal, so there were no negotiations in the first quarter of this year.

Now that all 15 framework agreements are going to be negotiated, and there will be content given to the framework agreement, I think you will see progress straight across the board.

The CHAIRMAN. One of the other issues that concerns me is the question of intellectual property rights and what you were striving for there, particularly the meaning of "adequate standards," as contained in the negotiated text. As I recall from our meeting in

Brussels and again in the meeting that we had in Geneva, some of your people stressed that they felt this question of adequate standards was highly significant.

So, I would like you to state for the record what you deem that to cover. Does it mean full coverage of all intellectual property rights? And do those we negotiate with representing other countries have the same understanding of it?

Ambassador HILLS. They certainly understand what we mean by "full coverage." And we do want full coverage of patents, trademarks, copyrights, and coverage for software and the like. So, that is what we think we need, and we think that those with whom we are negotiating will be better off because they will get greater amounts of investment and participation in their economic development if they do provide protection for a full range of intellectual property.

The CHAIRMAN. When you are negotiating for effective and appropriate means for the enforcement of intellectual property rights, what does that mean in the context of border enforcement and the GATT decision on section 337? Does it mean that we are going to be able to continue to provide enforcement at the border?

Ambassador HILLS. Absolutely. We will be negotiating internal and rights at the border. The reason we have the problem with 337 is because the GATT does not cover intellectual property, which only drives us to want to get that coverage in this round all the more.

The CHAIRMAN. Well, how much does it complicate your life that the panel came to the determination that section 337 violates the GATT?

Ambassador HILLS. The reason that argument is made is because the GATT now only covers trade in goods and does not cover intellectual property. So that, when we act to protect our intellectual property, and our means of protection is to raise a tariff, a bound tariff, we are—it is alleged—violating the GATT, because with respect to goods we have agreed not to raise bound tariffs.

But we have been very clear with our trading partners, saying that in these 15 areas that are not covered by the GATT we simply must protect our national interest. And we are using our tools to protect ourselves but also the world at large. We are simply asking that standards that we feel are necessary to world trade be adhered to, and we are urging their adoption in the GATT. But there is a certain philosophic collision.

The CHAIRMAN. Ambassador Hills, you have been generous to come, with your other conflicts and demands for your time, and we appreciate very much your attendance.

Ambassador HILLS. Thank you very much.

The CHAIRMAN. Our next witness will be a panel consisting of Mr. Irvin J. Elkin, President of the Associated Milk Producers, of Amery, Wisconsin; and Mr. Wayne Bennett, who is the Chairman of the American Soybean Association, of Arkansas.

Would you gentlemen please come forward and take your seats? [Pause.]

The CHAIRMAN. Mr. Elkin, if you would, proceed, please.

STATEMENT OF IRVIN J. ELKIN, PRESIDENT, ASSOCIATED MILK PRODUCERS, INC., AMERY, WI

Mr. ELKIN. Thank you, Mr. Chairman, members of the Finance Committee.

I am Irvin Elkin, a dairy farmer from Amery, Wisconsin, and President of Associated Milk Producers, Incorporated, headquartered in San Antonio, Texas. I am here to express the concerns of our dairy farmers as it relates to the GATT negotiations now going on and the possible effects on the U.S. dairy industry. I will present a very brief statement, and I ask that my prepared statement be included in the record.

The CHAIRMAN. That will be fine. That will be accepted.

Mr. ELKIN. AMPI recognizes the importance of agricultural exports. To the extent export growth strengthens agriculture, dairy farmers will find improved economic conditions. A strong dairy industry can only exist within the framework of a healthy agricultural economy.

The U.S. dairy industry is oriented toward meeting the needs of the domestic market. To deal with the inherent instability of the dairy industry, industry and government have worked together to craft market and price stabilization mechanisms to provide a degree of market stability and price assurance.

The price support program, market order system, and the system of import restraints applied under Section 22 of the Agricultural Adjustment Act are instruments of domestic food and agricultural policy, not trade policy. However, as part of the current trade negotiations, the ability of the U.S. to determine domestic policy is being offered at the international conference table.

AMPI is concerned that U.S. proposals in these trade talks will sacrifice domestic policy in the hope of an overall agreement.

It has been argued that the negotiations seek to establish a level playing field on which the U.S. can compete fairly with its competitors. Unfortunately, major factors that have resulted in the U.S. loss of markets or lack of competitiveness in the past, are not even under discussion as part of the trade talks. Nothing is being done to deal with fluctuating currency values or to change the operations of quasi-state trading companies that determine the nation's trade policy with respect to dairy products.

While the recent Geneva agreement falls short of the position originally advanced by the U.S., it does little to remove our concerns over the direction of the negotiations.

It clearly calls for negotiation of an agreement under which GATT will have the ability to prescribe the terms and limits of U.S. food policy. Of course, all of this will operate under a set of strengthened GATT rules. However, this offers little assurance, given the fact that we do not know what those rules might be, and the past application of GATT rules to the disadvantage of the United States.

The so-called world market for dairy products is small and generally regarded as a dumping ground. While U.S. producers are currently making some sales abroad, we have not been a routine participant, as U.S. policy has refused to meet the export subsidization of other countries. A weakening of domestic dairy policy through these talks could lead to expanded imports, depressed prices, and lost markets.

The real issue, as I see it, with respect to agriculture is whether U.S. producers and consumers will be well-served by negotiating away the ability of the United States to determine its own domestic food and agricultural policy. We are very concerned that following such a course is not a wise choice.

Thank you, Mr. Chairman.

The **CHAIRMAN**. Thank you.

We will withhold questions until both witnesses have testified.

Mr. Bennett, if you would, proceed.

[Mr. Elkins' prepared statement appears in the appendix.]

STATEMENT OF WAYNE BENNETT, CHAIRMAN, AMERICAN SOYBEAN ASSOCIATION, LONOKE, AR

Mr. **BENNETT**. Thank you, Mr. Chairman. I appreciate the opportunity to testify on behalf of the American Soybean Association.

I am a farmer from Lonoke, Arkansas, and serve as Chairman of the American Soybean Association Board. I am also Chairman of the ASA Trade and Export Policy Committee. I will file a longer report. but I have a few remarks to make.

ASA has historically been a strong advocate of free trade and the GATT, because exports have historically been the savior of soybean farmers. We export approximately half of our crop each year.

With collective annual sales of approximately $7 billion, the soybean industry is America's largest agricultural export sector. I might add that, before, when the soybean industry was healthy, we were the leading industry in the United States for balance of payments. We even outperformed the aircraft industry, but we have been on a descent since the early eighties. The European Community and Japan collectively purchased over half of our export sales.

I appreciate the opportunity to express ASA'S comments on the U.S. trade policy. My remarks will be limited to the progress of the ASA Section 301 Petition against the European Community and the Uruguay Round.

ASA supports free trade, but only if it is fair. Since soybeans are one of the least subsidized crops in the U.S., we cannot afford to compete with farmers from other nations that receive lucrative price guarantees, nor can we compete with nations that subsidize the export of soybean products or competing vegetable oil and protein products. For this reason, ASA has strongly supported the U.S. zero-option proposals of the Uruguay Round, to phase out all trade-distorting agricultural subsidies including domestic price and income support tied to production requirements.

A good example of the impact of foreign production subsidies has been trade in the European Community. Since the mid-seventies, the EC has guaranteed their farmers $14 a bushel for producing soybeans—that is twice the world price and over three times the U.S. loan rate of $4.77.

Similar price-guarantee levels exist for other oilseed and protein crops. The lucrative subsidies has been responsible for the EC's oilseed and protein production expanding from only 4 million metric tons in 1981 to over 15 million metric tons in 1988.

The European Community guarantees consumption of their locally-produced oilseeds before they allow any U.S.-produced seeds into the country. The higher production cost has cost U.S. soybean farmers $1.4 billion in annual sales to the Community. This 40-percent decline in our sales to Europe has been a major cause of the low soybean prices that have existed in this decade.

In 1977, ASA filed a Section 301 complaint against the European Community, charging that the EC's subsidies were nullifying and impairing the duty-free tariff bindings on soybeans and soybean meal. Thus far, the EC has stalled GATT consideration of the Petition at every turn. Currently, the EC is preventing the establishment of a GATT dispute-settlement panel to consider our complaint.

On July 5 of this year, the 18-month time limit on the ASA case expires. If the EC continues to stall in the case, the Omnibus Trade Act of 1988 requires the U.S. Trade Representative to rule the practice unfair and take retaliatory action against the Community. The retaliation equals approximately $1.4 billion, 14 times larger than the hormone dispute.

We hope it will not be necessary for the U.S. to retaliate against the EC. All we want is for the EC to eliminate its GATT-illegal subsidies and live up to the duty-free tariff bindings it gave the U.S. in 1962 during the Dillon Round. However, if necessary, we will strongly urge the U.S. Trade Representative to take retaliatory action as a means of encouraging the EC to live up to its GATT commitments.

We ask that Congress also urge the Administration to pursue a hard line in ASA's case. Otherwise, we could end up losing the remaining $2.1 billion market we have in Europe.

From ASA's standpoint, the 18-month time limit on Section 301 Petitions included in the Trade Competitiveness Act of 1988 has been very positive. Were it not for the 18-month limit, the EC would and could stall action on our petition indefinitely. Now they must deal with the matter in the face of the certainty of U.S. retaliation on July 5 of this year.

I also want to indicate appreciation of the support we received on the 301 Petition from the Office of the U.S. Trade Representative and the U.S. Department of Agriculture. Both have been great.

I particularly want to thank Senator Pryor, my Senator from Arkansas, for his efforts on behalf of ASA's case during his recent visit to Brussels and Paris. I assure you Senator Pryor's effort will be helpful in achieving a satisfactory settlement of this complaint.

With respect to the Uruguay Round, I can say ASA is pleased with the Mid-Term Agreement on agricultural trade reform. We would like to have seen an agreement that established the goal of eliminating all trade-distorting subsidies; however, that still may be possible under the agreement reached in Geneva.

The most significant aspect of the Mid-Term Agreement is the fact that, for the first time, internal production subsidies are included in GATT negotiations.

The **Chairman**. Mr. Bennett, if you could, summarize and finish. Your time has expired.

Mr. **Bennett**. Well, in summary, we appreciate the work that the Congress has done, especially the 18-month limit. We are very much in favor of the GATT Round, and we hope that we will be successful. And we hope the Administration will pursue our case vigorously.

Thank you.

The CHAIRMAN. Thank you.

[Mr. Bennett's prepared statement appears in the appendix.]

The CHAIRMAN. Let me state that you are quite right, in that Senator Pryor was a very persuasive and strong advocate of your position and I think the position of all of us on the committee who were on the trip recently.

Now, what will be facing us is U.S. negotiators working on the Uruguay Round, and particularly on the agricultural question, at the same time that you will have the Congress considering a new farm bill, with the present one expiring.

Do you think that we should write things into that farm bill to try to encourage the objectives that we want out of the Uruguay Round? Or do you think a simple extension of the Farm Bill would be appropriate? Would you comment on that, either of you?

Mr. BENNETT. Well, if we can't get an agreement, I would like to see something written into the Bill. Like I say, the 18-month limit that Congress put on section 301 petitions I think, has been a big help. And if we write a farm bill, and they have not reacted, I think we should do something.

The CHAIRMAN. Mr. Elkin, do you have any comment on that?

Mr. ELKIN. We don't favor a continuation of the present Farm Bill as it relates to dairy, because we understand it would call for continued price-support cuts. We have had over $2.50 in cuts since 1983, and we feel that our prices have gone down far enough. So for that reason, we would not like a continuation. We would like a new dairy section in the Farm Bill.

The CHAIRMAN. I heard Mr. Bennett talk about eliminating subsidies, and the Administration says that is still one of the objectives—the elimination of agricultural supports, and trade restrictions. Mr. Elkin, do you agree with that, and does your association?

Mr. ELKIN. No, not entirely. I think, to the extent that trade can be more fair, as I said, a strong agriculture is in the best interest of the U.S. dairy industry, even though we look somewhat inwardly in the case of the dairy industry.

The CHAIRMAN. What if all subsidies were done away with by our competitors? Would you be for doing away with ours?

Mr. ELKIN. No. The concern I would have, even if you had all the subsidies removed and this so-called level playing field is achieved, the field would not be truly level. In my statement I point out there would be continued concern about monetary policy because that can greatly distort things. We have seen how the shift from a strong dollar to a weak dollar can affect export sales and distort prices.

That would be a very definite concern of mine. Unless we do something to tie the economics of the world or the monetary policy to trade policy it is too easy to distort commodity prices.

The CHAIRMAN. What percentage of your industry's production is exported today?

Mr. ELKIN. I don't know the exact percentage, but very little. We are enjoying some foreign sales at this time because the European

Community has cut back quite drastically on their dairy production and there is a strong demand in the world for non-fat dried milk. So, we as an industry are exporting more this year. But in a normal year, we export virtually nothing commercially.

The **Chairman**. We were hearing that kind of a complaint on our trip, that they were making dramatic reductions, and that we were not as forthcoming.

Mr. **Elkin**. Yes, sir. I was fortunate enough to attend a conference in Dublin between the U.S. Chamber of Commerce and the EEC last Fall. They are very definitely watching our agricultural policy and what we are going to do, because they have made a lot of cuts and are now looking to see what we are going to do. They are very concerned about our dairy policies.

The **Chairman**. Your field was the one that we received the most objections on, insofar as what we are doing in the way of supports here as compared to what they are doing. When we talked about subsidies, they would hit us on this one time and time again.

Mr. **Elkin**. They always do. Section 22 is looked at by them as being a very strong barrier. On the other hand, our dairy agriculture policy calls for the price support program whereby our government buys some surpluses, varying by the year. Unless we have something to protect our market, when production comes back we will own all the surplus of the world. That is why we need Section 22, and the government needs it.

The **Chairman**. Senator Baucus?

Senator **Baucus**. Thank you, Mr. Chairman.

Mr. Bennett, you have no greater ambassador and advocate than Senator Pryor.

Mr. **Bennett**. I appreciate that.

Senator **Baucus**. I, too, was on that trip, and all of us could recite Senator Pryor's statement verbatim after the fifth or sixth meeting, I can tell you. He did a terrific job. [Laughter.]

Senator **Pryor**. I'll tell you what, we could all recite each other's statements verbatim after all of that. [Laughter.]

Senator **Baucus**. I am curious about your reaction, Mr. Bennett, to the exemption of Argentina and Brazil as developing countries in the short-term agreement on agriculture, since those countries produce soybeans.

Mr. **Bennett**. Well, we are very much opposed to that. Argentina and Brazil are our biggest competitors. We mentioned the EEP a few minutes ago. When we tried to use the EEP against the Argentines and Brazilians, we were told that that was off limits; we could not do anything to bother the sales from Argentina and Brazil. In fact, the customers that we were using EEP for had to sign an agreement that they would continue to buy from Brazil and Argentina the same amount they had been buying, in the future.

So, we think it is hurting U.S. farmers. They are increasing their production each year, and they use our loan rate to produce. They know what they can get for it. They produce and sell just under it, so they take the world market. Within the next two or three years, maybe next year, they will be the predominant producers of soybeans in the world. We will have lost our dominancy in soybeans.

Senator **Baucus**. A second question, to both of you: Do you think that the Administration has adequately consulted with your industry as the Administration negotiates in the Uruguay Round? You may not agree with the final positions the Administration has taken; but, apart from whether you agree, in your judgment have you had an adequate opportunity to express your views in a give and take with the USTR, particularly, so that you feel that at least they have the full benefit of your industry's views?

Mr. **Bennett**. Well, up until a few days ago I would say no, we have not; but we were able to get an appointment recently. They made two or three visits to Europe without ever talking to us, so we didn't know what they were negotiating—on our behalf, but we didn't know what they were doing. I think that has been corrected now.

Senator **Baucus**. All right.

Mr. Elkin?

Mr. **Elkin**. In my case, I do not think we have been consulted and have had input. We recently have had the president of National Milk Producers Federation placed on the advisory committee, and that should be helpful.

I personally tried to get on the committee; but, after a long time, I was told that, very frankly, I was too inflexible on Section 22.

I think we should have had more input and have not had the opportunity.

Senator **Baucus**. Thank you.

Thank you, Mr. Chairman.

The **Chairman**. Thank you.

Senator Pryor?

Senator **Pryor**. Yes. Thank you, Mr. Chairman.

Mr. Bennett, thank you for your very kind remarks. I would like to just get right into two or three questions.

I would like to get an idea of how profitable or unprofitable it is to produce a bushel of soybeans in the European Community as a result of the very high price guarantees that they have.

Mr. **Bennett**. Senator, last year the ASA contracted with a European firm to study the production costs in Europe. We needed to know that. They determined that the French produce soybeans at $7.30 per bushel. It is well above the U.S. cost of production. But they get $15.74 from the government. So, they made an $8.46 a bushel profit; that is 116 percent of their cost, and that profit is 60 percent above the world prices. So, we think it is very profitable to produce soybeans in the European Community at this time.

Senator **Pryor**. Because of the very high rate of support.

Mr. **Bennett**. The high support. It is not economically feasible; but, with the government supporting it, it is very profitable.

Senator **Pryor**. I would like to know, also, the interchangeability in the marketplace today for soybean oil, for rapeseed oil, sunflower oil, and is that an issue before the GATT at this time?

Mr. **Bennett**. Yes. With a few exceptions, most survasible oils are interchangeable. And the same thing with feed, with the meal. The oilseeds, with say sunseed or rapeseed, you can use the same. Soybean is the most efficient, but all of it can be used interchangeably if it becomes necessary.

Senator **Pryor**. On July 5—and we mentioned that date to Ambassador Hills just a few moments ago—we talk about "retaliation day" against the EC if there is no action on the 301 Soybean Petition. Do you have any indication as to what products are likely to be on the retaliation list?

Mr. **Bennett**. Well, we are convinced it will have to go to industrial products, because most of the agricultural products have already been encumbered. There is not enough volume in agricultural products.

So, we think it will hit the heart of the industrial sector of Europe, and at one point, the $1.4 billion we are talking about, I think it will get their attention.

Senator **Pryor**. Senator Baucus just asked a question about some concerns that I think the Association has about some negotiations that you may not be a part of, that are allegedly in your behalf. Up until this point you have had great cooperation, I think—in your statement, you reiterated—with the USTR and among the officials of USDA. Is that correct?

Mr. **Bennett**. That is true. Like I say, in the other Administration we had great cooperation, and I think we will here, but it is early in the game. We just had a conference recently with the U.S. Trade Representatives. But we feel confident that we can work with them, and we look forward to working with them.

Senator **Pryor**. Mr. Chairman, I think that is all the questions I have of Mr. Bennett. I want to thank him for coming up here from our State. He is a very fine citizen of Arkansas and is a great spokesman for the American soybean farmer.

Thank you, Mr. Bennett.

Mr. **Bennett**. Thank you.

Senator **Pryor**. Thank you, Mr. Chairman.

The **Chairman**. Senator Daschle?

OPENING STATEMENT OF HON. TOM DASCHLE, A U.S. SENATOR FROM SOUTH DAKOTA

Senator **Daschle**. Thank you, Mr. Chairman.

I also have some questions that I would like to submit for the record for Ms. Hills.

The **Chairman**. They will be taken.

[The questions appear in the appendix.]

Senator **Daschle**. I was not here for the bulk of the testimony, and therefore will limit myself to just one short statement and one question.

With regard to Mr. Elkin, it is my view that the dairy industry is probably more affected than anybody else by Section 22. Is that your assessment?

Mr. **Elkin**. Yes, probably along with sugar.

Senator **Daschle**. Along with sugar—that is correct.

I want to emphasize as strongly as I can that, as just one member of the Finance Committee and one member of the Senate, I think it is absolutely imperative that we not trade away Section 22. That is the bottom line.

Mr. Bennett, I would like a little clarification on your answer to the Chairman's question. You had indicated you thought, if we failed to come to some conclusion with regard to the GATT negotiations, we ought to unilaterally take action as we write the new Farm Bill.

I may have misunderstood your answer, but were you saying that, short of some kind of an agreement, you are willing to remove some of the subsidy and what ever other mechanism we have in our tools for international trade today?

Mr. **Bennett**. No, that is not what I meant.

Senator **Daschle**. I didn't think you did.

Mr. **Bennett**. No. We have to have support. If we are not successful in getting the subsidies eliminated in the rest of the world, we can't afford to cut back what we have. Our farmers would go under.

Senator **Daschle**. So, if we are writing the new farm bill, and we haven't been able to arrive at any conclusion in our negotiations, the Soybean Association certainly wouldn't favor any kind of unilateral action?

Mr. **Bennett**. Oh, no. No. I am sorry. I hope I didn't leave that impression. No.

Senator **Daschle**. All right. Well, as I say, it might have been only for my clarification, but I am glad to have that answer.

Thank you, Mr. Chairman.

The **Chairman**. Thank you.

Gentlemen, thank you very much for your attendance.

Our next panel will be Mr. Jason Berman, President of the Recording Industry Association of America, testifying on behalf of the International Intellectual Property Alliance; and Mr. C. L. Clemente, who is the Vice President and General Counsel of Pfizer, testifying on behalf of the Intellectual Property Committee.

Gentlemen, if you would, come forward, please.

Mr. Berman, if you would, proceed.

STATEMENT OF JASON BERMAN, PRESIDENT, RECORDING INDUSTRY ASSOCIATION OF AMERICA, INC., TESTIFYING ON BEHALF OF THE INTERNATIONAL INTELLECTUAL PROPERTY ALLIANCE, WASHINGTON, DC

Mr. **Berman**. Thank you, Mr. Chairman.

I am Jason Berman, President of the Recording Industry Association of America, and I appear here today on behalf of the International Intellectual Property Alliance. We are an alliance of seven trade associations cutting across the U.S. copyright community, representing motion pictures, music, records, books, and computer software.

Because each of us confronted world markets infected with massive and growing piracy, we joined together in 1984 to take on a dual fight—first, to protect our works in foreign markets; and second, to overcome non-tariff barriers and to open foreign markets to U.S. products.

Our message is a simple one: The protection of intellectual property is absolutely critical to our livelihood and to the U.S. balance of trade. Without the help of the United States Congress, however, we cannot prevent massive piracy worldwide.

In the past five years, I am pleased to report, your help has been an essential ingredient in our successes. And that goes back, Mr. Chairman, beginning with the Caribbean Basin Initiative, the renewal of GSP in 1984, the 1984 Trade Act Amendments, which established the lack of adequate and effective protection as actionable under Section 301 for the first time.

I want to point out that the Alliance was quick to test the government's resolve to implement the 1984 Trade Act Amendments. In 1985 we submitted to USTR a report on the extent of piracy in the 10 worst offending countries. This list included Singapore, Taiwan, Indonesia, Korea, Malaysia, Thailand, the Philippines, Brazil, Egypt, and Nigeria. It is clear from this list that the bulk of our interest and our problems lie in the Pacific Rim.

Since 1984 we have made enormous progress in the Pacific Rim. As a result of the Trade Act Amendments in 1984, the government had a self-initiated Section 301 against Korea, which was the most intransigent pirate nation. The Alliance subsequently filed petitions to de-designate Indonesia and Thailand as beneficiaries under GSP, and in this four-year period we have entered into bilateral treaties with most of these nations. Most of them, if not all, have passed new copyright laws. In fact, the bilateral with Indonesia is due to go into effect in August of 1989.

In 1988, Congress passed the Omnibus Trade and Competitiveness Act, which represents a further commitment and signal of congressional resolve to protect intellectual property as an important element of U.S. trade policy. I won't go into the details of the Act, except to say that the "Special 301" is an important weapon in our arsenal.

In furtherance of the objectives of the new Trade Act, the Alliance yesterday issued a report. In it we provided, first, an update on how—over the course of the last four years—our bilateral negotiation program has worked. Second, we have targeted a total of 12 countries, nine from the original 1984 list and three new countries, as problem areas subject to designation as "priority foreign countries" under Section 182 of the 1988 Act.

The protection of intellectual property as an element of trade policy has found perhaps its greatest and purest expression in the U.S. position in the GATT. Beginning with the Declaration at Punta del Este in 1986, the United States, together with Japan and the European Community, has pressed for the adoption of an intellectual property code.

The U.S. proposals have outlined the means of achieving this objective. The parties would undertake specific obligations to enact a high level of substantive standards. Strong border and internal enforcement measures consistent with the terms of the agreement would also be included. In addition, the parties would adopt and implement a dispute settlement mechanism, taking into account existing GATT procedures and negotiations, and adjusting them to fit the unique elements of intellectual property. And finally, the parties would adapt to intellectual property the relevant provisions drawn from existing GATT principles, specifically national treatment and transparency.

The U.S. GATT initiative has been driven by the concern that existing international conventions on intellectual property are inadequate to curtail extensive worldwide piracy. The Alliance maintains that existing conventions were never intended to be used as enforcement mechanism. We have fostered the adoption of the trade-based approach as a means of effectively encouraging the adoption of adequate standards and enforcement measures.

Just recently, in the area of intellectual property, the negotiators reached a framework agreement. I was in Montreal as an observer, part of the U.S. Delegation. It was interesting, Mr. Chairman, to learn of the connection between agriculture and intellectual property; because we were told that if there had been no progress on agriculture, there would be no progress on intellectual property. I would also point out that it was interesting to see first-hand the extent to which countries like Brazil, India, and Argentina proved to be recalcitrant, particularly in the period in which we were negotiating in Montreal.

Having had success now in working out this framework agreement, the Alliance cautions the Congress that it continue to observe and monitor this process, so that we not find ourselves in the position of accepting an agreement for the sake of an agreement.

We have had enormous successes, thanks to the Congress's statutory provisions and the implementation by the Administration on a bilateral basis, and we would hate to give those up for some ephemeral agreement that simply represents the notion that we ought to reach some conclusion on intellectual property.

Thank you, Mr. Chairman.

The **Chairman**. Thank you.

Mr. Clemente?

[Mr. Berman's prepared statement appears in the appendix.]

STATEMENT OF C. L. CLEMENTE, VICE PRESIDENT AND GENERAL COUNSEL, PFIZER INC., TESTIFYING ON BEHALF OF THE INTELLECTUAL PROPERTY COMMITTEE, NEW YORK, NY

Mr. **Clemente**. Thank you.

I would like to ask that my full testimony and attachments will be put in the record.

The **Chairman**. That will be done.

Mr. **Clemente**. I am C. L. Clemente, Vice President and General Counsel of Pfizer, Inc. I am here today representing the Intellectual Property Committee, the IPC.

The members of the IPC are Bristol-Meters, DuPont, FMC, General Electric, Hewlett-Packard, IBM, Johnson & Johnson, Merck, Monsanto, Pfizer, Rockwell International, and Warner Communications.

The IPC welcomes the opportunity afforded by today's hearings to provide its views on the recently completed Mid-Term Review and on the course for the remainder of the Uruguay Round negotiations on Trade Related Aspects of Intellectual Property Rights, known as TRIPS.

The IPC was formed in March 1986 and has undertaken a wide range of domestic and international activities in support of the GATT intellectual property negotiations. Last June the IPC achieved a significant milestone when it reached the tripartite consensus with the Keidanren, representing Japanese business, and UNICE, representing European business, on how the GATT should deal with intellectual property in the current multilateral trade negotiations.

The trilateral report has achieved wide circulation both here and overseas. We are submitting a copy of that report, entitled a "Basic Framework of GATT Provisions on Intellectual Property Protection," for the record.

By the time of the Montreal Mid-Term Review meeting last December, intellectual property had come full circle. From an obscure issue that was not widely recognized as a proper topic for multilateral trade negotiations prior to the September 1986 Punta del Este Ministerial Meeting, it has become one of the pivotal issues in the Uruguay Round of trade negotiations. In large part, this has been due to the consensus that has developed within the U.S. Government and the U.S. private sector on the importance of the intellectual property negotiations. The Congress, and particularly this committee, underscored in the Omnibus Trade and Competitiveness Act of 1988 the importance of strengthening the international protection of intellectual property through both multilateral and bilateral negotiations. In turn, to date, our negotiators have approached these negotiations with skill and diligence.

The Intellectual Property Committee welcomes the recently completed negotiating framework on TRIPS. It will permit the GATT to get on with the negotiations. The framework provides a basis for the type of comprehensive agreement that the IPC believes must be negotiated in the GATT.

The framework clarifies the commitment that the Ministers made at Punta del Este in September 1986 that a GATT intellectual property agreement should include (1) adequate and effective standards of intellectual property rights; (2) effective internal and border enforcement of intellectual property rights; and (3) effective and expeditious procedures for multilateral consultation and dispute settlement.

The IPC position on the TRIPS negotiations has been developed and coordinated with our private-sector counterparts in Europe and Japan. A comprehensive agreement on intellectual property must contain five elements: the three I have just mentioned from Punta del Este, plus basic GATT principles such as transparency and national treatment, and transitional arrangements and technical assistance provisions.

The IPC will continue to undertake activities that will facilitate the intellectual property negotiations in the GATT. Domestically, the IPC will continue to provide advice to our negotiators and to work with other business groups, to organize and maintain a consensus within the private sector for a comprehensive GATT intellectual property agreement.

Internationally, the IPC will continue to work closely with the Japanese and European business communities to coordinate our positions on issues that may arise during the course of the negotiations.

We also plan to undertake a major effort to extend the tripartite consensus to private-sector groups in other developed countries, and in key newly-industrialized countries, and in developing countries in the Far East and Latin America.

We recently prepared a paper on the benefits of strong intellectual property protection for developing countries, entitled "Strong

Intellectual Property Protection Benefits the Developing Countries," which we are submitting for the record.

The scope of an intellectual property negotiation will put great pressure on the ability of our negotiators to complete an agreement within the remaining two years. To expedite matters, the United States should put together a detailed draft negotiating document that could be used to develop a consensus with other like-minded countries on the structure and scope of a comprehensive agreement.

Once tabled in the TRIPS negotiating group, the draft negotiating document, even if it were bracketed, would quickly focus the negotiators on the five key elements of the comprehensive agreement that we seek.

U.S. policy should be geared to achieving a GATT intellectual property agreement. The IPC urges that, when Ambassador Hills designates priority countries under the special 301 intellectual property procedures contained in the 1988 trade bill, she take into account how such a designation can move the TRIPS negotiations forward. Creatively used, the designation process could provide incentives to gain the support of key countries in the GATT negotiations while directly improving intellectual property protection in those countries.

The IPC believes that the negotiation of a TRIPS agreement could provide a structure to deal with the concerns that our trading partners have with respect to Section 337 of the 1930 Tariff Act. Changes in Section 337 should be considered in the context of a comprehensive GATT agreement on IP.

The CHAIRMAN. If you could finish, Mr. Clemente, I have another commitment.

Mr. CLEMENTE. All right.

[Mr. Clemente's prepared statement appears in the appendix.]

The CHAIRMAN. Let me speak to some of the comments that have been made.

I feel very strongly about the protection of intellectual property rights. I think special Section 301 provision on intellectual property is being extremely helpful, and that a number of countries are deeply concerned about being named, and that many of them are taking action. We will continue to press in that regard, but the testimony you have given me this morning will be quite helpful to us.

Senator Daschle, do you have any questions?

Senator DASCHLE. Mr. Chairman, I don't have any questions.

The CHAIRMAN. All right.

Well, with that in mind, thank you very much for your contribution.

Mr. CLEMENTE. You are quite welcome.

The CHAIRMAN. That will conclude our hearing.

Thank you.

[Whereupon, at 11:15 a.m., the hearing was concluded.]

APPENDIX

ALPHABETICAL LISTING AND MATERIAL SUBMITTED

PREPARED STATEMENT OF WAYNE BENNETT

I am Wayne Bennett, a farmer from Lonoke, Arkansas. I appear here today as the Chairman of the Board of the American Soybean Association (ASA). I also serve as Chairman of ASA's Trade and Export Policy Committee. ASA is a national, nonprofit trade association representing U.S. soybean farmers.

I appreciate the opportunity to offer comment on the implementation of the Trade and Competitiveness Act of 1988 as well as the impact of the Uruguay GATT Round on the U.S. soybean industry. Possibly more than any other agricultural sector, the soybean industry owes much of its success to the GATT and to trade liberalization that has occurred abroad as a result of the GATT. Soybeans and soybean products are collectively America's largest export crop, with annual export sales of approximately $7 billion. Approximately half of the U.S. soybean crop is exported annually. Around 40 percent of our exports go to the European Community (EC) while Japan is our largest single-country market.

GATT has served the interests of soybean farmers quite well in the past. Through the Dillon Round of GATT negotiations, the U.S. was successful in getting the EC to grant duty-free tariff bindings on soybeans and soybean meal. As a result of our unrestricted access to the EC market, the EC's rapid economic growth and ASA's market development efforts in Europe, the EC by 1981 had become a $3.5 billion annual market for soybeans and soybean meal. Were it not for the GATT we are certain the EC would have long ago withdrawn the duty-free bindings and established variable levies on soybeans and soybean meal. Therefore, I can clearly say that ASA does not claim that the GATT has outlived its usefulness. Instead, we seek a strengthened GATT better able to resolve trade disputes among member nations.

ASA has been a strong supporter of the current and past Administration's agricultural reform proposal in the Uruguay Round. We have supported the "zero option" because we feel the elimination of trade-distorting agricultural subsidies worldwide would greatly benefit U.S. soybean farmers. As a very efficient and largely unsubsidized commodity, the soybean sector is extremely vulnerable to the loss of markets to subsidized competitors or import barriers. We understand the root causes of export subsidies and access restrictions in the oilseed sector are high domestic price and income supports that foster uneconomic production beyond that justified by market forces.

In the EC we have experienced a $1.4 billion decline in annual sales of soybeans and soybean meal. The sales loss is the result of the EC's extremely lucrative production and utilization subsidies for soybeans, rapeseed, sunflower seed, feed peas and feed beans. The subsidies were established by the EC to reduce its dependence on imported soybeans and soybean meal and to provide incentives for EC farmers to shift out of grains. This year the EC is guaranteeing its farmers over $14 per bushel for soybeans. The U.S. soybean support rate is $4.77 per bushel, and the world price is around $7.25 per bushel. Similar subsidy levels exist for other oilseeds and for beans and peas.

The EC's subsidies resulted in a 300 percent combined increase in EC oilseed, pea, and bean production between 1981 and 1987. We have paid the price in the form of a 40 percent reduction in our sales of soybeans and soybean meal to the EC. The subsidies have cost the average U.S. soybean farmer about $2300 annually in lost sales to the EC and have been a major cause of the low soybean prices that have existed this decade.

ASA filed a Section 301 Unfair Trade Petition against the EC's oilseed/protein subsidies in December, 1987. We charged in the Petition that the EC's oilseed/protein subsidies had nullified and impaired the EC's duty-free tariff bindings to our detriment. The Petition was accepted by the U.S. Trade Representative on January 5, 1989. To date the EC has stalled GATT consideration of the issue at every turn. Currently, the EC is preventing the establishment and beginning of work of a GATT dispute settlement panel to consider ASA's case.

ASA's Section 301 Petition is the first to be subject to the 18-month deadline included in the Trade and Competitiveness Act. On July 5, 1989 the 18-month time limit on ASA's Section 301 Petition expires. Hopefully the EC will have allowed GATT action on our case or offered an acceptable compromise to settle the dispute before this deadline. If not, the U.S. Trade Representative is mandated by the Trade and Competitiveness Act of 1988 to take unilateral retaliatory action against the EC. The retaliation will approximate $1.4 billion, 14 times the retaliation over the beef hormone ban and the largest in history under a Section 301 Petition.

It is not ASA's desire to retaliate against the EC. We simply want the EC to live up to its 1962 GATT agreement. However, we will certainly support retaliation, if necessary, to achieve that result.

In the case of ASA's Section 301 Petition the 18-month time limit must be seen as a very positive tool. In the absence of this new time limit, there is no doubt the EC would stall action on ASA's Petition indefinitely. It certainly can do so under GATT rules. However, the 18-month time limit forces the EC to allow action on our Petition or suffer U.S. retaliatory action on July 5. To say that the EC is upset with the time limit is an understatement. However, the EC certainly has respect for its implications.

The Trade and Competitiveness Act of 1988 also authorized U.S. participation in the Uruguay Round of Multilateral Trade Negotiations. ASA strongly supported U.S. participation in the Uruguay Round and is pleased that we are well on the way to achieving meaningful achievements in the round. Overall, ASA is pleased with the results of the mid-term agricultural agreement reached in Geneva on April 8, 1989. We would have preferred to see an agreement that called for the ultimate elimination of all trade-distorting agricultural subsidies. However, as we see it such elimination is still a possibility under the agreement reached in Geneva; the goal of "substantial progressive reduction in agricultural support and protection sustained over an agreed period of time" does not preclude ultimate elimination. However, we are also cognizant that it will be extremely difficult to get the EC, Japan, and the Nordic nations to agree to the elimination of all subsidies and protection.

We believe the Geneva agreement is important because for the first time internal price and income supports are included in the negotiations. Such trade-distorting measures are the root causes of over-production which in turn leads to export subsidies and protectionist import restraints. Until GATT agreements phase out or reduce internal supports, there is little chance we will ever contain export subsidies and border protectionism.

Although we support the agreement, there are three areas for future negotiation that concern us a great deal. These are the EC's "rebalancing" proposal, the use of aggregate measurement of support to measure subsidies and protection, and the U.S. proposal for tariffication of import and utilization constraints.

EC REBALANCING PROPOSAL

The European Community has insisted throughout the Uruguay Round that the final agriculture agreement should allow nations to rebalance levels of support and protection among different sectors of agriculture. The EC proposal is nothing more than an effort to get GATT authority to establish import tariffs or variable levies on imports of soybeans, soybean meal, corn gluten feed, manioc, and other non-grain feed ingredients and to do away with its duty-free tariff bindings on those commodities. Supposedly, the EC would offset the new protection in those sectors with reductions in other areas, possibly grains. The EC's objective is to reduce imports of the commodities and to force their farmers to use more EC-origin oilseeds, grains and protein crops as well as to greatly reduce budgetary expenditures.

If the EC is successful in getting the rebalancing proposal adopted, it would mean an enormous loss in U.S. agricultural exports to Europe. We would lose a large portion of our soybean and soybean meal sales to the EC but would gain little if any sales of other crops. Rebalancing would allow the EC to become more of a protectionist island in world agricultural trade and make EC agreement to future constraints on agricultural subsidies and protection even less likely. Oilseeds and protein crops are practically the only "hole in the dike" of the Common Agricultural

Policy. If the EC can close this hole, it will ~~be able to~~ retrench and become a greater pariah on world agricultural markets.

We are pleased U.S. negotiators, as well as those of the Cairns Group, steadfastly opposed any reference to the rebalancing proposal in the Mid-Term Agreement. However, we note the agreement provides sufficient authority for the EC to advance the rebalancing proposal in the next 20 months of negotiations. It is extremely important that the U.S. continue to reject any form of rebalancing during the remainder of the negotiations. The objective of the Uruguay Round is to reduce barriers to trade. It should not allow any nation to increase protection. I cannot envision ASA supporting a final Uruguay Round agreement that contains authority for the EC to rebalance its protection in agriculture. We urge the Congress to make this point vividly clear to U.S. negotiators.

AGGREGATE MEASUREMENT OF SUPPORT

Part of the agreement in Geneva was to measure levels of protection and support and all such future reduction in support and protection with the OECD's "Aggregate Measurement of Support" (AMS). Under AMS the levels of protection in all agricultural sectors would be averaged together to develop an index. Any required reductions in support and protection would also be measured by AMS. Our fear is that the EC could use the AMS to actually increase import protection and internal supports in oilseeds and protein crops as long as greater-than-average reductions were effected in other sectors. For example, the EC grows approximately 165 MMT of grains and 10 MMT of oilseeds. It is conceivable the EC could reduce its grain supports by 12 percent while increasing oilseed supports or protection by 10 percent and still claim an average 10 percent reduction in AMS. Just like with rebalancing we would suffer great loss while gaining practically nothing.

We feel an essential element of the AMS system should be a requirement that a nation cannot increase protection or support in any area and still claim an overall reduction in support. In particular, no nation should be able to establish import restrictions on any commodity subject to duty-free tariff bindings. Possibly, no commodity sector should be able to be adjusted downward by less than half of any required overall reduction as part of compliance with a required reduction in overall support and protection.

TARIFFICATION

A major objective of the U.S. in agricultural negotiation has been its tariffication proposal. Under the proposal all quotas, licensing requirements, and other mechanisms to reduce imports and consumption would be converted to tariffs. In turn, the tariffs would be reduced in the future by an amount agreed in the negotiations. In principle, we agree with the U.S. proposal. However, we want to make certain that the tariffication mechanism is not used by the European Community to convert its internal oilseed and protein subsidies into tariffs. To do so would mean the sacrifice of our unrestricted access to the EC market.

We suspect the EC may claim that its internal oilseed and protein production and processing subsidies are effective import constraints. If so, they may seek to eliminate the subsidies and convert them to very high tariffs on oilseeds and protein products. The EC's duty-free tariff bindings would go out the window and with them much of our sales to the EC. The EC would gain a great budget savings as oilseed and protein subsidies were converted into consumer transfers from taxpayer transfers.

In no way should the EC be able to use the tariffication proposal in this way. We believe the EC's oilseed and protein subsidies are GATT-illegal. They are the subject of ASA's Section 301 Petition. There should be no way the EC can claim credit for subsidies that are inconsistent with its GATT commitments. Our negotiators must prevent this from happening.

In conclusion, Mr. Chairman, I want to reiterate ASA's support for the GATT and the Uruguay Round. We believe in free trade as a goal because we feel it will serve the interests of America's competitive soybean industry. However, we must be diligent in making sure the GATT is not used by the EC and other nations, including the U.S., to establish new constraints to trade. The U.S. must stand up for its GATT rights and use retaliation, if necessary, to achieve those rights. I assure you American soybean farmers intend to fight hard for their rights and expect our government to help us. In that regard, we believe the tools authorized in the Trade and Competitiveness Act of 1988 are very helpful.

Thank you.

March 21, 1989

Honorable David Pryor
U.S. Senator
c/o Hotel Amigo
Brussels, Belgium

Dear Senator Pryor:

Your office was in contact with the American Soybean Association's Washington office prior to your departure for Europe seeking information on the status of ASA's Section 301 unfair trade petition against the European Community. ASA Chairman Wayne Bennett relayed some information on the issue to your office while he was in Paris. He has asked that I provide you with a further written update on the issue. Wayne Bennett spent last week in Brussels and Paris meeting with EC and French officials where we discussed the status of ASA's case.

ASA filed its petition on December 16, 1987 and it was accepted by Ambassador Yeutter on July 5, 1988. In our Petition we charged the EC has nullified and impaired its duty-free tariff bindings on soybeans and soybean meal by subsidizing the production and consumption of EC-grown oilseeds (rapeseed, sunseed, and soybeans) and pulses (beans, peas, and lentils). We charged that the EC subsidies are responsible for a $1.4 billion annual loss in soybean and soybean meal sales to the EC. We asked that the U.S. Government seek the elimination or satisfactory modification of the EC's oilseed/pulse subsidy regime.

The U.S. Government has been very supportive of ASA's Petition. However, the EC has stalled action on the case at every turn. The EC blocked establishment of a GATT dispute settlement panel on two occasions and now are preventing the panel from getting to work by insisting on unreasonable commitments from the U.S. Government. We are convinced, based on our meetings of last week, that the EC is confident the GATT dispute settlement panel will rule in favor of the U.S. on the issue and force the EC to make major changes in its oilseeds/pulse subsidies. Therefore, the EC's approach is to stall action by the panel.

The problem the EC now faces is that the USTR is required by the Omnibus Trade Act of 1988 to issue an unfairness determination on ASA's case 18 months after accepting the Petition. That date is July 5, 1989. Concurrently with making the unfairness determination the

USTR must also identify the amount of injury resulting from the unfair practices and implement unilateral retaliation equivalent with the degree of injury. We anticipate Ms. Hills would determine the level of injury and retaliation would be $1.4 billion, 14 times the level of retaliation imposed on the beef hormone issue. The only way that Ms. Hills can delay implementation of the retaliation is if she determines such retaliation will undermine a successful solution to the dispute. The delay could not last longer than January 5, 1990. It is ASA's view that it would be advisable to delay implementation of retaliation on July 5 if the GATT dispute settlement panel is actively considering the issue and the EC is acting in good faith to foster consideration by the panel. At present the panel is not meeting and the EC is not acting in good faith.

In our meetings last week the EC insisted on two things as a condition of allowing the GATT dispute settlement panel to be formally established and to begin work. First, the EC wants Ms. Hills to give them a formal commitment that she will delay retaliation on July 5 if the panel is operating. Second, the EC wants the U.S. to agree to having the GATT dispute settlement panel make a determination of the degree of injury the U.S. has suffered as a result of the EC's oilseed/protein subsidies as well as to determine whether the subsidies are GATT-illegal. We told the EC officials that there is no way that Ms. Hills should give the EC a commitment, written or verbal, that the U.S. will not retaliate on July 5. That decision should be made on July 5 based on the situation that exists then. We understand this is the position of Ms. Hills.

On the issue of having the panel issue an injury determination we believe the EC request is both unreasonable and inconsistent with normal GATT procedures. Acquiescence to the EC request would establish a bad precedent for future disputes and increase the risk the panel would establish an unjustifiably low level of injury. Instead ASA believes the panel should be approved now to determine whether the EC's oilseed/pulse subsidies are in fact nullifying and impairing the EC's duty-free tariff bindings. If we win a positive panel decision then subsequent U.S.-EC negotiations can work out how the EC system must be modified to make it GATT consistent. Now is not the time to give in to the EC.

It is important to ASA that you impress upon Commissioners MacSharry and Andriessen the importance the Congress places on ASA's case. At stake is 40 percent of our exports of soybeans and one row in five of U.S. soybean production. Our case is aimed at making the EC live up to its commitments during the Dillon Round of negotiations that concluded in 1962. If the EC will not live up to past commitments how can we trust it to live up to commitments made in the Uruguay Round?

We feel it is also important that you and your fellow senators impress upon Commissioners MacSharry and Andriessen the fact that the EC should quit stalling action in the GATT on ASA's Petition. The EC has stalled the case for almost 15 months already. The Congress put the 18-month time limit on Section 301 Petitions into the 1988 trade act primarily because of past stalling by the EC. If the EC wants to avoid U.S. retaliation on July 5 the best way is to cease stalling on ASA's case and let the GATT panel begin to work. Otherwise, the EC is certain to see U.S. retaliation on July 5, 1989.

Senator Pryor, I hope this information is helpful to you. I suggest you speak to Frank Padovano, U.S. Agricultural Counselor at the U.S. Mission in Brussels, if you need additional information. Frank accompanied Wayne Bennett and me to most of the meetings we had last week in Brussels. Upon your return to Washington I would enjoy an opportunity to discuss your findings at your convenience.

Thank you for your attention to ASA's Section 301 Petition.

Sincerely,

John Baize
Staff Vice President,
Trade and Export Policy

WASHINGTON INSIGHT

No. 4 April 14, 1989

REVIEW AND ANALYSIS
GATT MID-TERM AGREEMENT ON AGRICULTURE

Negotiators from the United States, European Community, and other GATT-member nations reached agreement in Geneva on April 8 on the basis for agricultural reform in the Uruguay Round of Multilateral Trade Negotiations. The difficult-to-achieve agreement calls for a short-term freeze on agricultural subsidies and protection during the remainder of the negotiations. In addition, the agreement calls for negotiations to be completed by December, 1990 on long-term reform measures.

Short-Term Measures

The agreement provides for all GATT-member nations, between now and the end of 1990, to "undertake to ensure that current domestic and export support and protection levels in the agricultural sector are not exceeded". This essentially means that nations are not to raise their price supports, income supports, export subsidies or other agricultural support measures. Likewise nations are not to reduce access to their markets by raising tariffs (import taxes), tightening quotas, or in any other way restricting imports above the level that existed prior to the agreement. In addition, the nations agreed to reduce support and protection levels by an unspecified level for the 1990 crop.

Long-Term Measures

The negotiators agreed that during the next 20 months efforts will be made to reach agreement on reforms to be carried out after 1990. Any final agreement accepted by U.S. negotiators would have to be approved in 1991 by the U.S. Congress to become effective. Specifically, the agreement identifies the objective of the negotiations to be a "substantial progressive reduction in agricultural support and protection sustained over an agreed period of time, resulting in correcting and preventing restrictions and distortions in world agricultural markets". Negotiators agreed the long-term agreement should encompass all measures affecting directly and indirectly import access and export competition including tariffs, quotas, internal price supports that distort trade, all forms of export subsidies and assistance, and export restrictions. The negotiators did not agree to the U.S. proposal for the ultimate elimination of all trade distorting agricultural subsidies, but they also did not preclude that from being the ultimate outcome of the negotiations.

Should negotiators over the next 20 months reach agreement on long-term reform measures the reforms would begin to take effect in 1991.

ASA Concerns with Future Negotiations

ASA has three principal concerns relative to future negotiations in the Uruguay Round:

- **EC Rebalancing Proposal**: During the negotiations in Geneva the European Community (EC) aggressively sought inclusion of language in the agreement allowing the EC the authority to "rebalance" its import protection among different crops. The rebalancing proposal is an attempt by the EC to gain the right to offset reductions in its internal support and border protection in the grains sector with the establishment of import duties on soybeans, soybean meal, and non-grain feed ingredients. Adoption of the rebalancing proposal would allow the EC to legally withdraw its duty-free tariff bindings on soybeans and soybean meal and greatly reduce imports of those commodities. The EC is the market for approximately $2.1 billion of U.S. soybeans and soybean meal, or about half the total U.S. soy exports.

The EC's rebalancing proposal was not included in the final mid-term accord because of strong opposition from the U.S. and other exporting nations. However, it is certain the EC will continue its quest during negotiations for a final agreement. ASA will aggressively work with the U.S. negotiators and other nations to prevent adoption of the rebalancing proposal.

- Tariffication: A major U.S. objective in the negotiations is to require all nations to convert all non-tariff trade barriers such as quotas into tariffs. In turn the U.S. wants the tariffs to be progressively reduced in the future. While ASA supports the tariffication proposal, the EC must not be allowed to convert its internal oilseed subsidies (which limit U.S. sales to the EC) into import tariffs. Such a move by the EC would allow it to nullify its duty-free tariff bindings on soybeans and soybean meal to the detriment of U.S. soybean farmers. The U.S. Government supports ASA's position.

- Aggregate Measures of Support: The negotiators in Geneva agreed that levels of subsidy and protection in GATT member nations will be measured by Aggregate Measures of Support (AMS). The AMS level for each nation will be an average of the levels of support and protection provided all traded commodities. Any future support and protection reductions required by a final agreement will be based on the AMS. ASA's concern with AMS is that the EC and other nations will seek to make larger than average reductions in support and protection in sectors other than oilseeds and protein crops while not reducing or actually increasing support and protection in oilseeds and protein crops. This would effectively allow the EC to nullify its duty-free tariff bindings. ASA will press U.S. negotiators to seek an agreement that prevents any nation from increasing supports in any sector as part of any overall reductions in aggregate measures of support.

ASA Position and Reaction to Agreement

ASA resolutions state "ASA strongly supports U.S. participation in the Uruguay Round of multilateral trade negotiations, provided U.S. soybean farmers are treated on an equitable basis. ASA favors a GATT agreement providing for a multilateral phase-out in all trade-distorting agricultural subsidies, provided that the agreement is enforceable and applicable to all trading nations".

Given ASA's current policy, it is unfortunate the Geneva accord does not provide for a goal of ultimately eliminating all trade-distorting subsidies. However, we view the agreement to be a major positive step toward reducing, and possibly eliminating, the foreign trade distortions and subsidies that are negatively impacting U.S. soybean and product exports. We intend to work closely with U.S. negotiators to achieve maximum benefits for U.S. soybean farmers from the upcoming negotiations.

U.S. soybean farmers are relatively unsubsidized, internationally-competitive suppliers of soybeans. As such, they stand to gain substantially from a worldwide reduction in the levels of subsidy and protection afforded less competitive producers in other nations. The Uruguay Round of GATT negotiations offers an excellent opportunity to achieve a "more level playing field" on which U.S. soybean farmers can better compete.

For more information on the Geneva accord and future GATT negotiations please contact Wayne Bennett, Chairman of ASA's Trade and Export Policy Committee (501-676-2755), or John Baize, ASA's Staff Vice President for Trade and Export Policy (202-371-5511).

The American Soybean Association filed a Section 301 Petition against the European Community on December 16, 1989. The Petition charged the EC with nullifying and impairing its duty-free tariff bindings on soybeans and soybean meal by providing lucrative internal subsidies for the production and utilization of oilseeds and protein crops. ASA's Petition charged that the EC subsidies have been responsible for a 40 percent decline in U.S. soybean and soybean meal exports to the EC and a $1.4 billion decline in annual sales to the EC. Thus far the EC has blocked GATT action on ASA's Petition. However, ASA's case is the first Section 301 Petition to be subject to the 18-month deadline for action on such Petitions. The 18-month deadline expires on July 5, 1989 at which time the U.S. is likely to retaliate against $1.4 billion in EC exports to the U.S. unless the EC allows meaningful progress on ASA's Petition. ASA expresses support for the 18-month deadline.

In the testimony ASA expresses general support for the GATT Mid-Term Agreement on agriculture reached in Geneva on April 8, 1989. However, ASA expresses concern with the potential for final any final agreement that includes the EC's proposal for rebalancing of import protection and support. Concern is also expressed with respect to the use of the Aggregate Measurement of Support (AMS) and the U.S. proposal for tariffication of non-tariff trade barriers. ASA's concern is that either of three concepts could result in the EC being able to withdraw its duty-free tariff bindings on soybeans and soybean meal to the detriment of U.S. soybean farmers.

ASA asks the Congress to:

- Urge the Administration to continue to agressively pursue ASA's Section 301 Petition against the European Community

- Act to prevent U.S. negotiators in the Uruguay Round from accepting any agreement that would allow the European Community to withdraw its duty-free tariff bindings on soybeans and soybean meal

PREPARED STATEMENT OF JASON BERMAN

Mr. Chairman, Members of the Committee, I welcome the opportunity to appear before you this morning to give the Committee a status report from America's copyright industries. Our overriding message is a simple one: the protection of intellectual property is absolutely critical to our livelihood and to the U.S. balance of trade. Without the help of the United States Congress, however, we cannot prevent people from stealing the fruits of our labors. In the past five years, I am pleased to report, that help has been an essential ingredient in our successes.

I am President of the Recording Industry Association of America. I am speaking to you today on behalf of the International Intellectual Property Alliance. We are an alliance of seven trade associations cutting across the copyright community: motion pictures, music and records, books and computer software. Because each of us confronted markets infected with massive and growing piracy, we joined together in 1984 to take on a dual fight—a fight to protect our works in foreign markets and to otherwise open foreign markets to U.S. copyrighted works.

Our members are trade associations representing over 1600 companies. These companies—companies that rely on copyright protection—generated over $270 billion in gross revenue in 1988, account for over 5% of the U.S. GNP and contribute a surplus of over $13 billion annually to the U.S. trade balance. The Alliance is made up of: The Computer Software and Services Industry Association (ADAPSO), the American Film Marketing Association (AFMA), the Association of American Publishers (AAP), the Computer and Business Equipment Manufacturers Association (CBEMA) the Motion Picture Association (MPAA) the Recording Industry Association of America (RIAA) and the National Music Publisher's Association (NMPA).

I am very pleased to be here today to speak on the issue of U.S. trade policy and the protection of intellectual property. It is a topic that has moved from total obscurity to great prominence over the last five years. Indeed, a presentation on this issue in early 1984 would have occupied approximately ten seconds and would have gone something like this . . . "There is no relationship between the protection of intellectual property which is a judicial issue and U.S. trade policy, which is an economic issue. Period. Thank you."

Today, of course, it is a horse of an entirely different color. It is now axiomatic that inadequacies in the protection of intellectual property are trade distorting and need to be remedied. Favorable trade treatment for our trading partners is now premised on adequate protection for U.S. intellectual property and has been embodied in a fundamental way into U.S. trade law. This transformation has been swift, complete, and as I said "fundamental" and, it is to be hoped very likely to remain that way.

The birth of trade based intellectual property protection in late 1984 was the result of various forces, both technological and economic. The intellectual property industries, including the industries represented in the Alliance, were faced with losses of increasing magnitude due to piracy and counterfeiting—losses fueled in part by technological advances that made piratical and counterfeit items both cheaper to manufacture and of a better quality.

At the same time, the U.S. was faced with a burgeoning trade deficit and a situation where U.S. manufactured products were no longer dominating the marketplace—even the U.S. market. A lone bright spot on an otherwise bleak trade picture was the performance of U.S. intellectual property industries. In music, film, books, software, trademarked and patented goods, etc., the U.S. led the world in the creation, distribution and export of intellectual properties, yet its trade policies had done little to protect this precious asset.

Seizing upon an opportunity to capitalize on its trade performance, and concerned with the level of piracy in many regions of the world, the U.S. copyright-based industries represented in the Alliance, whose viability depended on adequate and effective protection for the products they produced, licensed and exported, fought hard to bring to the attention of Congress and the Administration that the protection of intellectual property should be included in U.S. trade laws. You, the Congress, in turn delivered, the result being that trade policy and the protection of intellectual property have become inextricably entwined, not only for U.S. policy makers and negotiators, but globally.

The relationship between trade policy and intellectual property found its first expression in the 1984 Trade Amendments that extended and amended the Generalized System of Preferences program ("GSP") Consideration had been given to elimination of the GSP program. The Alliance argued for extension of the program and for the inclusion of a provision making eligibility under GSP dependent upon the adequate and effective protection of U.S. copyrighted works. The Congress, in adopting the Amendments, gave expression to this approach, and made such protection a discretionary criteria for renewal of annual GSP privileges.

The 1984 Trade Amendments also amended Section 301 of the U.S. trade laws under which the President (and now the United States Trade Representative under the terms of the 1988 Omnibus Trade Act) can retaliate against nations that engage in unfair trading practices. The Amendments specified the lack of adequate and effective copyright protection as an "unreasonable" act or practice under Section 301.

These twin measures symbolizing Congress' commitment to the protection of U.S. copyrighted works abroad effectively established U.S. policy with respect to the trade implications of the lack of adequate protection. There is to be no looking back, and the tools contained in Section 301 and the 65P program have proved to be instrumental in the U.S. leveraging improved copyright protection in countries whose practices had not conformed with international standards.

The Alliance wasted no time in testing U.S. resolve to protect intellectual property as codified in the 1984 Trade Act Amendments. In 1985, we submitted to the United States Trade Representative's Office a report highlighting the piracy problems in ten selected countries which were viewed collectively by the U.S. copyright based industries as the most egregious infringers of U.S. works. This list included Singapore, Taiwan, Indonesia, Korea, Malaysia, Thailand, the Philippines, Brazil, Egypt and Nigeria. As is clear from this list, U.S. interests overwhelmingly identified the Pacific Rim region as the area of greatest concern.

Pursuant to the submission of the ten country report, and armed with new negotiating powers, the U.S. Trade Representative's Office, the Commerce and State Departments, and the external affairs offices of both the Copyright Office and the Patent and Trademark Office, have made tremendous progress in illustrating the importance of the adequate protection of intellectual property. This steady march toward adequate protection witnessed the first self-initiated Section 301 action which was brought against one of the most intransigent pirate countries, Korea. The Alliance also filed petitions to de-designate Indonesia and Thailand as beneficiaries under the GSP program. It has seen the passage of new laws in Taiwan, Korea, Singapore, Indonesia and Malaysia and in a series of bilateral treaties by which we agreed to give protection to each other's copyrighted works.

In 1988, the Congress passed the Omnibus Trade and Competitiveness Act which represents the crystallization of Congressional resolve to protect intellectual property as an important element of trade policy. The Act adopted a new mechanism for dealing with losses due to piracy and other barriers to market access suffered by the intellectual property industries. This new "Special 301" mechanism begins with the identification in USTR's National Trade Estimates Report of countries which impose these barriers. This report is due by the end of this month, April 30. USTR is then required to identify "priority foreign countries", those whose practices are the most egregious and cause demonstrable trade losses, by May 30 of this year. On June 30, USTR commences Section 301 investigations of these countries. These negotiations are subject to a "fast-track" deadline of 6 months with a possibility of an extension to 9 months before the Trade Representative must make a decision on whether and how to retaliate if a satisfactory agreement is not reached. This new Section 301 mechanism provides the Trade Representative with authority to take swift, specific and effective action in those situations where foreign governments fail to safeguard U.S. intellectual property against piracy, or where foreign markets are unfairly closed to U.S. goods and services. Most importantly, it represents an unequivocal declaration by the U.S. Congress and executive that America is united in its commitment to lead the global effort to expand world trade and to protect intellectual property.

In furtherance of the objectives of the new Trade Act Amendments, the Alliance yesterday issued an important report. In it, we provided first an update—four years later—of how the U.S. bilateral negotiation program has worked and, second, targeted a total of twelve countries nine from the original 1984 list and three new countries as "problem" countries subject to designation as "priority foreign countries" under Section 182 of the 1988 Omnibus Trade and Competitiveness Act.

The report details the improvements in copyright protection in these original ten countries, leading to a reduction in trade losses due to piracy by over 50% from $1.3 billion in 1984 to $645 million in 1988. One country, Singapore, went from being the leading pirate nation, causing over $350 million in losses to U.S. copyright industries—including over $220 million in losses to the recording industry—to the "best" country in the region with losses totalling only $10 million in 1988. It also appears that Indonesia is close to joining Singapore as a success story.

Yet while losses have significantly decreased, the job is not finished; we still have major problems in the remaining countries. In Korea, and Taiwan, for example, we have not been able to get these governments to vigorously enforce their laws. As a result, despite good new laws, losses are still very high. These two countries as well as Thailand, Malaysia, Philippines, Brazil, Egypt and Nigeria remain on our "problem" list. Indonesia remains on the list not for piracy, but for failure to provide fair market access to the U.S. motion picture industry.

The three new countries added to the list are the People's Republic of China, Saudi Arabia and India. Together they caused an estimated $730 million in losses to U.S. copyright industries in 1988, over $400 million in China, about $190 million in Saudi Arabia and about $120 million in India. The first two of these countries have no copyright law and consequently do not protect our works at all. Of great concern, for example, are the massive losses suffered by the U.S. software, and book publishing industries in China, estimated at $300 million and $100 million per year, respectively.

We ask that these 12 countries be delivered a message in the very strongest terms. No longer will this country tolerate theft of U.S. intellectual property. Our market is among the freest in the world. These countries can expect to sell their products here only if we can sell ours there. No more, no less.

The U.S. trade policy in Asia, though still unfinished, has worked. We must resolve the remaining problems. We must also look at new regions and countries where piracy flourishes. We have identified the Middle East as the next focus of attention and effort. The trade based approach to the protection of intellectual property, strengthened in the 1988 Omnibus Trade Act and now a cornerstone of U.S. trade policy, should be employed in that region. Egypt, Saudi Arabia, and the states represented by the Gulf Cooperation Council should now be the focus of U.S. government attention. The blueprint for successful action has already been established in the Pacific.

The recently established Congressional resolve to protect intellectual property is reflected in U.S. adherence to the Berne Convention after only 102 years of being an onlooker to the world's preeminent multilateral treaty on copyright. U.S. adherence was possible only as a result of the increased visibility of intellectual property protection that accompanied the trade based approach. U.S. commitment to the trade based approach is itself reflected in the Omnibus Trade Act of 1988, in which Congress made significant improvements to Sections 301 and 337 of the U.S. Trade Laws, and most dramatically by the forceful exposition of the U.S. position in the Uruguay Round of GATT negotiations that I.P. be included.

This dedication to protect intellectual property as an element of trade policy has found perhaps its greatest and purest expression in the GATT. Beginning with the Declaration at Punta del Este in 1986, the U.S., together with the European Community and others, has pressed for the adoption of an intellectual property code to reduce what, in the Administration's words, are "distortions of and impediments to legitimate trade in goods and services caused by inadequate standards of protection and ineffective enforcement of intellectual property rights."

U.S. proposals have outlined the means of achieving this objective. Parties would undertake specific obligations to enact a high level of substantive standards in their national laws for the protection of intellectual property and strong border and internal enforcement measures consistent with the terms of the agreement. In addition, parties would adopt and implement a dispute settlement mechanism, taking into account existing GATT procedures and negotiations and adjusting them to fit the unique elements of intellectual property. Finally, parties would adapt to intellectual property the relevant provisions drawn from existing GATT principles, such as national treatment and transparency.

The U.S. GATT initiative has been driven by the concern that existing international conventions on intellectual property are inadequate to curtail the extensive worldwide trade losses caused by counterfeiting and piracy. The Alliance maintains that existing international conventions were never intended to be used as enforcement mechanisms, and has fostered the adoption of the trade based approach as a means of effectively encouraging the adoption of adequate standards and enforcement measures. Just two weeks ago, the GATT contracting parties agreed to a "framework" pursuant to which the GATT intellectual property negotiations would continue. This "framework" document reaffirms the objectives initially tabled by U.S. negotiators and we believe it is an encouraging sign of progress at this stage. The negotiation of a strong intellectual property agreement in the GATT will be an uphill battle but one that can be won through the joint efforts of the legislative and executive branches, together with the private sector.

We have thus come full circle. Whereas four years ago, I listeners would have looked askance at the proposition that the protection of intellectual property was somehow related to trade policy, we now are accustomed to hearing of the trade distortions implicit in the failure to adequately protect intellectual property. Last year, the International Trade Commission estimated that worldwide losses due to piracy ranged from 23 to 100 billion dollars per annum. As a matter of trade policy, losses of this magnitude demand attention.

As trade in services has surpassed trade in goods as the world's chief trading commodity, the emergence of intellectual property as a trade issue was inevitable. The inherent power of this approach has pirates running for cover in a world of dwindling refuges. The U.S. and world community appear poised to take no prisoners in this effort. It is now within the bounds of reason to foretell of a day when widespread commercial piracy will be but a bad and distant memory. The Alliance thanks you for the role that you have played so far, but cautions you that the most difficult tasks remain to be accomplished.

We must keep the pressure on foreign governments to provide adequate legal protection and to vigorously enforce those protections. Bilateral initiatives have so far been very successful in this endeavor, and we urge the continuation of these initiatives. At the same time, we encourage the U.S. to fully participate and to continue to drive the debate in multi-national fora both in the WIPO and the GATT. In the GATT, we must fight the temptation to enter into an agreement at any cost. The Price of an agreement which undercuts existing standards or a services agreement which exempts the cultural industries is too high—particularly insofar as the *quid pro quo* for such an agreement may be a limitation on the ability of the U.S. to pursue its objectives in a bilateral or regional manner.

The task ahead of us will be tough not only because we must increasingly focus our attention on the enforcement of adequate standards as well as the articulation and adoption of such standards where they are lacking, but also because new technologies are making the protection of intellectual property rights more difficult. Technologies which permit unauthorized access, collection and storage are expanding more rapidly than the ability of copyright owners to protect their properties, and quickly outdistance existing legal parameters. Thus, today's adequate standards are tomorrow's invitations to piracy. Congress' job is to withdraw those invitations.

In conclusion, I want to thank you for your support, and drop a marker that there is much unfinished business in the fight against worldwide piracy and other unfair market barriers to trade in copyrighted works. The structure for making progress in this area has already been established, and the Alliance fully supports continued U.S. policies with respect to bi-lateral and multi-lateral initiatives, and in particular hails the achievements embodied in the recent GATT framework agreement. At the same time, the Alliance cautions the Congress to ensure that the U.S. does not agree to any GATT agreement that undercuts existing standards. Although a GATT agreement on TRIPS would be exceedingly helpful, particularly if agreement is reached with respect to the GATT dispute resolution mechanism, it is not an agreement to be gained at any cost. Any TRIPS agreement must embody the highest standards provided by international conventions and national legislations. Any services agreement must not permit exemptions for the so-called "cultural industries."

We urge the Congress to exercise a strong oversight responsibility with respect to the ongoing GATT process. The Administration must hear, in no uncertain terms, that the Congress places the greatest emphasis on the elimination of piracy and other barriers to market access through negotiation of a strong, multi-lateral agreement in the GATT, but will not, under any terms, accept an agreement which in any way undercuts existing standards. I thank you for providing us with this opportunity to present our views.

PREPARED STATEMENT OF C.L. CLEMENTE

I am C.L. Clemente, Vice President and General Counsel of Pfizer Inc. I am here today representing the Intellectual Property Committee (IPC). The members of the IPC are Bristol-Myers, DuPont, FMC, General Electric, Hewett-Packard, IBM, Johnson & Johnson, Merck, Monsanto, Pfizer, Rockwell International and Warner Communications.

The IPC welcomes the opportunity afforded by today's hearings to provide its views on the recently completed Midterm Review and on the course for the remainder of the Uruguay Round negotiations. The focus of my remarks today will be on the negotiations on Trade Related Aspects of Intellectual Property Rights (TRIPS).

The IPC was formed in March, 1986 to mobilize domestic and international support for improving the international protection of intellectual property. The IPC has undertaken a wide range of domestic and international activities in support of the GATT intellectual property negotiations. Last June, the IPC achieved a significant milestone when it reached a tripartite consensus with the Keidanren, representing Japanese industry, and UNICE, representing European industry, on how the GATT should deal with intellectual property in the current multilateral trade negotiations. The trilateral report has achieved wide circulation both here and overseas. We believe it has become the standard reference for the GATT intellectual property negotiations. We are submitting a copy of the trilateral report, entitled a *Basic Framework of GATT Provisions on Intellectual Property Protection,* for the record.

By the time of the Montreal Midterm Review meeting last December, intellectual property had come full circle; from an obscure issue that was not widely recognized as a proper topic for multilateral trade negotiations prior to the September, 1986 Punta del Este Ministerial Meeting, it has become one of the pivotal issues in the Uruguay Round of trade negotiations. In large part, this has been due to the consensus that has developed within the U.S. Government and the U.S. private sector on the importance of the intellectual property negotiations. The Congress, and particularly this Committee, underscored in the Omnibus Trade and Competitiveness Act of 1988 the importance of strengthening the international protection of intellectual property through both multilateral and bilateral negotiations. In turn, to date our negotiators have approached these negotiations with skill and diligence.

MIDTERM REVIEW RESULTS

The IPC welcomes the recently completed negotiating framework on TRIPS. It will permit the GATT to get on with the negotiations. The framework provides a basis for the type of comprehensive agreement that the IPC believes must be negotiated in the GATT.

The framework clarifies the commitment that the Ministers made at Punta del Este in September 1986 that a GATT intellectual property agreement should include (1) adequate and effective standards of intellectual property rights, (2) effective internal and border enforcement of intellectual property rights, and (3) effective and expeditious procedures for multilateral consultation and dispute settlement. The IPC, together with representatives of European and Japanese business, has already provided government negotiators with a detailed blueprint of such an agreement in the tripartite consensus report mentioned earlier.

When the IPC started its quest over three years ago for a GATT agreement on intellectual property, we knew that the negotiations would not be easy. The TRIPS Midterm Review process, which began in September, faltered in Montreal and was finally completed in Geneva earlier this month, proves the point. A small group of countries tried to use the Midterm Review not only to attack the substance of the TRIPS negotiations but also to question the very legitimacy of the GATT negotiations on intellectual property. On the other hand, a much larger number of countries recognized that inadequate intellectual property protection distorts international trade and supported the negotiation of a comprehensive agreement in the current GATT round. The tension that was evident in Montreal and Geneva between a small group of countries with extreme views and a larger group of countries that want to get on with the substance of the negotiations is a preview of what we can expect for the remainder of the negotiations. In effect, the negotiations have been joined.

The language of the negotiating framework—especially paragraphs (3), (4) and (5)—is a fair description of how the negotiations will be carried on. In paragraph (3), the Ministers reiterated the obvious point made at Punta del Este that, at the end of the round, they will be the ones to determine the institutional aspects of how the results of the TRIPS and other negotiations will be implemented within the GATT. Paragraph (4) is a clear enumeration of the specific elements to be covered in the negotiations. The five issues—basic GATT principles, adequate intellectual property standards, effective enforcement, multilateral consultation and dispute settlement procedures and transitional arrangements—form the core of the comprehensive agreement sought by the governments and private sectors of the industrialized countries.

We would have preferred not to have paragraph (5) included in the framework. It represents an attempt by countries opposed to strong protection to introduce into the negotiations permanent derogations from effective and adequate intellectual property protection for development, technological and other public policy reasons. Unfortunately, these countries incorrectly believe that the path to economic development lies in imitation and piracy rather than in creativity and innovation. The actual language of paragraph (5), however, is acceptable in that it represents the reality of the negotiations. In the negotiations on the five substantive elements listed in paragraph (4), countries will be able to raise, and consideration will be given to, relevant concerns that are related to the underlying public policy objectives of intellectual property protection systems. The framework language, however, clearly does not require that the negotiations take into account these misplaced concerns.

The Midterm Review process provided a six month interlude for the substantive TRIPS discussions while the negotiators hammered out a procedural text. Our negotiators were able to ensure that the framework itself would not hinder the negotiations.

The Midterm Review represented a hurdle that the United States and other countries interested in a comprehensive GATT intellectual property agreement successfully overcame. Success in Geneva in April 1989, however, does not guarantee success in Geneva at the end of the Uruguay Round. The Midterm Review revealed the fundamental differences between the United States and those countries that do not want a strong multilateral system of intellectual property protection. Countries, such as Brazil and India, which opposed a strong framework, can be expected to continue to obstruct the second half of the TRIPS negotiations. The launching of the actual negotiations thus represents a major challenge to those countries—developing as well as developed—that have a real stake in strengthening the international trading system.

IPC POSITION ON THE NEGOTIATIONS

The Midterm Review and the launching of the actual negotiations provide an opportune time for a brief reiteration of the IPC position on the TRIPS negotiations. Our views have been developed and coordinated with our private sector counterparts in Europe and Japan. We believe that this international private sector consensus, in part, has been helpful in reaching this point in the actual negotiations. The views that are presented below have been elaborated in our trilateral document.

The objective of a GATT agreement on intellectual property should be the elimination of distortions in the trade of goods caused by the lack of respect for intellectual property by taking two important steps that should not lead to barriers to legitimate trade: (a) the creation of an effective deterrent to international trade in goods where there is an infringement of intellectual property rights and (b) the adoption and implementation of adequate and effective rules for the protection of intellectual property.

The objectives of a GATT agreement would be achieved by requiring signatories to a GATT agreement on intellectual property to create adequate and effective trade and intellectual property laws for use by private rights holders; and to use multilateral consultation and dispute settlement procedures when other signatories fail to meet their obligations to provide adequate and effective trade and intellectual property laws.

A set of fundamental principles for protection of intellectual property and of essential elements of enforcement procedures incorporated in the GATT agreement on intellectual property would serve as the necessary reference point for dispute settlement. These fundamental principles and essential elements can be drawn from those adequate minimum standards of intellectual property protection contained both in the laws of those countries which engage in most of the trade in products embodying intellectual property and in international intellectual property conventions that contain adequate standards of protection. In many cases, the international norms found in current international intellectual property agreements are not sufficient or through their absence result in severe trade distortions.

Harmonization of the different national systems that already contain adequate and effective intellectual property protection is not a prerequisite for a GATT agreement on intellectual property. The TRIPS negotiations should not be a fine-tuning exercise among countries with strong—but different—systems of protection. Rather, the negotiations should deal with the trade-distorting problems caused by inadequate and ineffective national protection of intellectual property.

A GATT agreement must not permit a reduction in protection from levels already afforded. The maintenance of adequate and effective levels of protection will, therefore, limit the concessions that can be made and the incentives that can be offered to induce countries with inadequate levels of protection to adhere to a GATT agreement.

However, a number of important incentives should be included in the GATT agreement on intellectual property (preferential treatment, transition rules and technical assistance), which could, when coupled with incentives outside the GATT framework (consultations, market access and assistance), expedite the process and encourage adherence by all GATT contracting parties.

It is, however, doubtful that a GATT intellectual property agreement will receive the initial support of all contracting parties. A code, similar in form to the Standards and Subsidies Codes already negotiated in the GATT, would permit like-minded countries in both the developed and developing worlds to adopt a comprehensive agreement with high levels of protection without being held hostage by the demands and stalling tactics of GATT contracting parties that are not interested in providing adequate protection, reinvigorating the GATT and strengthening the multilateral trading system.

ROLE OF THE IPC IN THE REMAINDER OF THE ROUND

The IPC will continue to undertake activities that will facilitate the intellectual property negotiations in the GATT. Domestically, the IPC will continue to provide advice to our negotiators on the positions that the United States should take both in the formal GATT TRIPS working group meetings and in its more informal international contacts on the issue. The IPC will continue to work with other business groups to organize and maintain a consensus within the private sector for a comprehensive GATT intellectual property agreement.

Internationally, the IPC will continue to work closely with the Japanese and European business communities to monitor the negotiations. Last September, the three groups briefed the GATT delegations in Geneva and the GATT and WIPO Secretariats on the details of the approach contained in our report on the GATT intellectual property negotiations. In addition, we intend to coordinate our positions on issues that may arise during the course of the negotiations to permit coordinated private sector interventions with our respective governments.

We also plan to undertake a major effort to extend the tripartite consensus to private sector groups in other developed countries and key newly industrializing countries (NICs) and developing countries (LDCs). The IPC has plans for visits to the Far East and Latin America for later this year. We will encourage these groups to join the trilateral consensus and to intervene with their respective governments in support of the GATT intellectual property negotiations. In particular, we will seek to demonstrate to the NICs and LDCs the linkage between effective intellectual property protection and economic development and growth. In this regard, the IPC, Keidanren and UNICE recently prepared a paper on the benefits of strong intellectual property protection for developing countries, which we plan to circulate extensively during our visits. We are submitting a copy of the paper, entitled *Strong Intellectual Property Protection Benefits the Developing Countries,* for the record.

FUTURE COURSE OF THE NEGOTIATIONS

Now that the Midterm framework discussions are over, the IPC urges those countries that have a stake in a strong international trading system to focus their efforts on the work at hand: the actual negotiation over the next two years of a comprehensive GATT intellectual property agreement. The scope of an intellectual property negotiation will put great pressure on the ability of our negotiators to complete an agreement within the remaining two years. To expedite matters, the United States should continue, as it has done so far during these TRIPS negotiations, to take the lead.

The IPC believes that the most efficacious demonstration of that leadership is for the United States to put together a detailed draft negotiating document. Such a document could be used to develop a consensus with other like-minded countries on the structure and scope of a document that could then be tabled in the TRIPS negotiating group. Once tabled, the document, even if it were bracketed, would quickly focus the negotiations on the five key elements of the comprehensive agreement that we believe will effectively deal with the trade distortions resulting from inadequate and ineffective intellectual property protection. The Midterm discussions over the negotiating framework revealed support for a comprehensive agreement among countries that have a stake in the international trading system. The United States should move quickly to translate that support on procedure to a consensus on substantive details. While the PC believes that questions of strategy and tactics fall within the sole purview of our negotiators, it strongly urges them to consider the benefits of early U.S. development of an actual negotiating document.

BILATERAL-MULTILATERAL LINKAGES

The intellectual property negotiations continue to be a test for the GATT's future. The successful negotiation of a comprehensive GATT intellectual property agreement will demonstrate the GATT's ability to provide a multilateral response to one of the most severe trade problems facing the international trading system.

U.S. policy should be geared to achieving that result. The special 301 procedures on intellectual property contained in the 1988 trade bill provide opportunities in the multilateral arena as well as direct leverage for improving intellectual property protection in priority countries. The IPC urges that when Ambassador Hills designates priority countries under the special 301 intellectual property procedures, she take into account how such a designation can move the TRIPS negotiations forward. Creatively used, the designation process could provide incentives to gain the support of key countries in the GATT negotiations while directly improving intellectual property protection in those countries.

The IPC believes that the current TRIPS negotiations can provide the multilateral structure for dealing with bilateral issues of concern to our trading partners. The IPC supported the elimination of the Manufacturing Clause and U.S. adherence to the Berne Copyright Convention specifically because they improved the international environment for a comprehensive intellectual property agreement in the Uruguay Round. In this regard, the IPC believes that the negotiation of a TRIPS agreement could provide a structure to deal with the concerns that our trading partners have with respect to Section 337 of the 1930 Tariff Act. Notwithstanding the findings of the recent GATT panel that Section 337 is inconsistent with the national treatment obligations of the United States under GATT, Section 337 provides U.S. rightsholders with an effective procedure to exclude imports of goods that infringe valid U.S. patents. Nevertheless, the IPC believes that changes in Section 337 should be considered in the context of a comprehensive GATT agreement on intellectual property that deals effectively with the problems addressed by Section 337.

In addition, the IPC believes that until a comprehensive GATT agreement on intellectual property is negotiated, the United States should be wary of accepting any GATT panel report that might undermine the use of Section 301 in intellectual property cases. As in the case of Section 337, a comprehensive GATT agreement on intellectual property would provide the proper structure for subjecting intellectual property cases under Section 301 to GATT discipline.

CONCLUSION

Notwithstanding the energy that was expended on the Midterm Review, one must recall that the negotiating framework is essentially a procedural text. The tough part of the negotiations is about to begin. For its part, the IPC will continue its efforts domestically and internationally to provide governments with the support necessary to successfully complete the negotiations. It will work closely with Ambassador Hills and Secretary Mosbacher and their staffs and will seek to extend the trilateral consensus to private sectors in other countries, including developing countries.

The success to date in the TRIPS negotiations has been due to the close cooperation between the private sector and the U.S. Government. The IPC believes that a continued close working relationship with the Executive Branch and the Congress will similarly ensure a successful outcome of the Uruguay Round negotiations on intellectual property.

Enclosure.

U.S. SUBMISSION TO THE NEGOTIATING GROUP ON TRADE-RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS, INCLUDING TRADE IN COUNTERFEIT GOODS

I. Introduction

In October 1987, the United States submitted a suggestion for achieving the Negotiating objective of this Group (MTN.GNG/NG11/W/14). In that submission, the United States set forth its objectives for these negotiations. Specifically, it sought an agreement that would reduce distortions of and impediments to legitimate trade in goods and services caused by inadequate standards of protection and ineffective enforcement of intellectual property rights.

The submission then outlined the means of achieving this objective. Specifically, parties would undertake obligations to bring national laws and enforcement mechanisms into conformity with the provisions of a GATT agreement. That agreement would include obligations to adopt and implement (1) adequate substantive standards for the protection of intellectual property, drawing such standards from international conventions where adequate, and from national laws that provide a sufficient level of protection where the provisions of such conventions are inadequate or do not exist; (2) both border and internal enforcement measures; (3) a dispute settlement mechanism, taking into account existing GATT procedures and negotiations and adapting them to intellectual property; and (4) provisions drawn from existing

GATT principles, such as national treatment and transparency, adapted to intellectual property. Each of these obligations would be undertaken with a view toward minimizing interference with legitimate trade.

Finally, the U.S. suggestion included preliminary thoughts on the standards that might be included in an agreement and provisions of general concern, such as provision of technical assistance and the potential for revision and amendment of the agreement. In the year since submission of the U.S. proposal, participants in the negotiating group have made further detailed proposals on how the negotiating group could achieve its objective. Indeed, the United States has orally and in informal submissions further developed its thoughts on the details of how we should achieve that objective. These evolving thoughts are set forth in the following paper.

II. OBJECTIVE

The objective of these negotiations remains unchanged, i.e, a GATT intellectual property agreement to reduce distortions of and impediments to legitimate trade in goods and services caused by deficient levels of protection and enforcement of intellectual property rights. Parties would undertake specific obligations to enact adequate substantive standards in their national laws for the protection of intellectual property and for border and internal enforcement measures consistent with the terms of the agreement. Thus, Parties would agree to:

—Recognize and implement standards and norms that provide adequate protection for intellectual property rights and provide a basis for the effective enforcement of such rights;

—Provide an effective means of preventing and deterring infringement of intellectual property rights;

—Create an effective economic deterrent to international trade in goods and services which infringe intellectual property rights through implementation of internal and border measures;

—Ensure that such measures to protect intellectual property or enforce intellectual property rights minimize interference with legitimate trade;

—Extend international notification, consultation, surveillance and dispute settlement procedures to protection of intellectual property and enforcement of intellectual property rights; and

—Encourage non-signatory governments to adopt and enforce the agreed standards for protection of intellectual property and join the agreement.

III. STANDARDS FOR THE PROTECTION OF INTELLECTUAL PROPERTY RIGHTS

During the course of these negotiations, the United States and other participants, such as the European Community and Japan, have commented in significant detail on the standards or principles that should be included in a GATT agreement. The United States takes this opportunity to elaborate its evolving views on adequate standards for the protection of intellectual property rights.

A. PATENTS

1. Patentable Subject Matter and Conditions for patentability

A patent shall be granted for all products and processes which are new, useful, and unobvious.

In this regard, the terms "useful" and "unobvious" encompass or are synonymous with the terms "capable of industrial application" and "inventive step." Examples of items which do not meet these criteria are: materials consisting solely of printed matter, scientific principles, methods of doing business, and algorithms and mathematical formulas per se, including those incorporated in computer programs. A patent application or a patent, however, may be withheld from publication if disclosure of the information contained therein would be detrimental to the national security.

2. Term of protection

A patent shall have a term of at least 20 years from filing. Extension of patent terms to compensate for delays in marketing occasioned by regulatory approval processes is encouraged.

3. Rights Conferred

A patent shall provide the right to exclude others from the manufacture, use or sale of the patented invention and, in the case of a patented process, the right to exclude others from the importation, use or sale of at least the direct product thereof, during the patent term.

4. Conditions for Compulsory Licenses and Revocation Provisions

A compulsory license may be given solely to address, only during its existence, a declared national emergency or to remedy an adjudicated violation of antitrust laws. Patents may also be used non-exclusively by a government for governmental purposes. In the case of a license to address a national emergency or in the case of use by a government for governmental purposes, a patent owner must receive compensation commensurate with the market value a license for the use of the patented invention. A compulsory license must be non-exclusive. All decisions to grant compulsory licenses as well as the compensation to be paid shall be subject to judicial review. A patent shall not be revoked because of non-working.

B. TRADEMARKS

1. Definition

A trademark may consist of any sign, word, design, letter, number, color, shapes of goods or of their packaging, or any combination thereof, capable of distinguishing the goods of one undertaking from those of other undertakings. The term "trademark" shall include service mark and certification mark.

2. Derivation of Rights and Rights Conferred

Trademark rights may derive from use or registration or a combination thereof. The owner of a trademark shall have the exclusive right to use that mark and to prevent others from using the same or a similar mark for the same or similar goods or services where such use would result in a likelihood of confusion. Rights shall be subject to exhaustion only in the country or customs union where granted.

3. Registration Systems

A system for the registration of trademarks shall be provided. Use of the trademark may be a prerequisite to registration. Regulations and procedures shall be transparent and shall include provisions for written notice of reasons for refusal to register and access to records of registered trademarks. Each trademark shall be published within 6 months after it is approved for registration or is registered and owners of the same or similar trademarks and other interested parties shall be afforded a reasonable opportunity to challenge such registration.

4. Protection of Well-Known Marks

A country shall refuse or cancel the registration and prohibit the use of a trademark likely to cause confusion with a trademark of another which is considered to be well known either in that country or internationally well known. A period of at least five years from the date of registration shall be allowed for requesting the cancellation or prohibition of use of such a trademark. No time limit shall be fixed for requesting the cancellation or the prohibition of the use of trademarks registered or used in bad faith.

5. Subject Matter for Registration as a Trademark

The nature of the goods or services to which a trademark is to be applied shall in no case form an obstacle to the registration of the trademark.

6. Term of Protection and Conditions on Maintenance of Protection

A trademark shall be registered for no less than ten years and shall be renewable indefinitely for further terms of no less than ten years when conditions for renewal have been met. where use of a registered trademark is required, the registration may be cancelled only after five years of continuous non-use, and then only if the person concerned does not justify the non-use. Justified non-use shall include non-use due to import prohibitions or other government laws, regulations, policies, or practices. A country shall not impose any special requirements for the use of a trademark such as size or use in combination with another trademark. Authorized use of a trademark by a third party shall be considered use by the trademark owner for purposes of meeting use requirements.

7. Prohibition of Compulsory Licenses

No compulsory licensing of trademarks shall be imposed and assignment of trademarks shall be permitted.

C. COPYRIGHTS

1. Rights Conferred

A. Parties shall extend to copyright owners at a minimum, the exclusive rights to do or to authorize doing of the following:

(a) to copy or to reproduce the work by any means or process, in whole or in part, and whether identically or in substantially similar fashion;
(b) to translate, revise, and otherwise adapt and prepare derivative works based on the protected work;
(c) to distribute copies of the work by sale, rental, or otherwise, and to import copies; and,
(d) except in the case of sound recordings, to communicate publicly the work, directly or indirectly (e.g., perform, display, exhibit broadcast, transmit and retransmit) whether "live" or from a fixation, by any means or process, (e.g., by electronic network, by terrestrial links, broadcast signals, satellites, or otherwise) and regardless of whether the signal emanates from beyond national borders.

B. Restrictions of exclusive rights to "public" activity (e.g., the right of public performance) shall not apply to the reproduction or adaptation right; and with respect to the communication right, "public" or "publicly" shall mean:
(a) places open to the public or any place where a substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered; and
(b) communications of works in any form or by means of any device or process, regardless of whether the members of the public capable of receiving such communications receive them in the same or separate places and at the same time or at different times.

2. Subject Matter of Copyright Protection

Copyright protection shall extend to all forms of original expression regardless of the medium in which the work is created, expressed, or embodied or the method by which it is communicated or utilized. Such works include literary works (including all types of computer programs expressed in any language, whether application programs or operating systems, and whether in source or object code); musical works (including accompanying lyrics); dramatic works, cinematographic and audiovisual works; sound recordings; pictorial, graphic and sculptural works; choreography and pantomime; compilations (whether of protected or unprotected materials and whether in print, in a machine-readable data base or other medium); derivative works (without prejudice to any rights in preexisting material upon which they are based); and works created with the use of computers, as well as works in forms yet to be developed.

3. Securing Protection

Copyright protection shall vest automatically upon the creation of a work and shall subsist whether or not the work is published, communicated, or disseminated. The enjoyment and exercise of rights under copyright shall not be subject to any formality. Economic rights under copyright shall be freely and separately exploitable and transferable; transferees (assignees and exclusive licensees) shall be entitled to full enforcement of their acquired rights in their own name.

4. Limitations and Exemptions

Any limitations and exemptions to exclusive economic rights shall be permitted only to the extent allowed and in full conformity with the requirements of the Berne Convention (1971) and in any event shall be confined to clearly and carefully defined special cases which do not impair actual or potential markets for, or the value of, copyrighted works.

5. Conditions For Compulsory Licenses

Compulsory licenses shall not be adopted where legitimate local needs can be meet by voluntary actions of copyright owners. Implementation, where necessary, of compulsory licenses shall be strictly limited to those works and those uses permitted in the Berne Convention (1971); shall be implemented in accordance with relevant treaty standards; shall preserve all material interests of authors and copyright owners; and shall be accompanied by detailed laws and regulations that provide strong safeguards, including notification of the copyright owner and .effective opportunity to be heard, mechanisms to ensure prompt payment and remittance of royalties consistent with those that would be negotiated on a voluntary basis, and workable systems to prevent exports.

6. Term of Protection

The minimum term of copyright protection shall be the life of the author plus fifty years; and for anonymous and pseudonymous works and works of juridical entities (works made for hire) shall be at least fifty years from publication with the con-

sent of the author, or, failing such an event within fifty years from the making of a work, fifty years after the making.

7. Copyright Protection

Parties that have afforded no effective copyright protection to foreign works shall provide copyright protection for pre-existing works that are not in the public domain in the country of origin of the work.

D. TRADE SECRETS

1. Scope of Protection

Trade secret protection should be broadly available and cover items such as any formula, device, compilation of information, computer program, pattern, technique or process that is used in one's business or that has actual or potential economic value from not being generally known. Protection should be accorded both to technical information, such as technical drawings or operational specifications, and commercial information, such as price or customer lists or business methods, regardless of whether the trade secret is in a tangible form, such as a machine or written record, or is maintained without tangible means, for example, by memory.

2. Term of Protection

A trade secret should be protected so long as it is not public knowledge, general knowledge in an industry, or completely disclosed by the results of a use of the trade secret.

3. Maintenance of Right

To maintain legal protection, the owner of a trade secret may be required to make efforts reasonable under the circumstances to maintain such secrecy but need not show that no one else possesses the trade secret. Without losing the requisite secrecy, the owner may communicate a trade secret to employees involved in its use, communicate a trade secret to others pledged to secrecy or make any other communications required by law or as a condition for marketing.

4. Definition of Misappropriation, i.e., Infringement of a Trade Secret

Misappropriation means the acquisition, disclosure or use of trade secret without a privilege to acquire, disclose or use it. Misappropriation includes discovery of the trade secret by improper means; use or disclosure of a trade secret in breach of a confidence; acquisition of a trade secret from a third person with notice that it was a secret and that the third person misappropriated it; acquisition, disclosure, or use of a trade secret with notice that its disclosure was made by mistake; or use or disclosure of a trade secret after receiving notice that it was disclosed by mistake or by one who had misappropriated it.

5. Rights Conferred

Trade secrets must be protected from actual or threatened misappropriation, and the owner shall be entitled to full compensation for misappropriation. In assessing liability for misappropriation involving use or disclosure of a trade secret disclosed by mistake or by one who had misappropriated it, authorities may take into consideration whether the recipient has in good faith paid value for the secret or changed position to his detriment as a result of its receipt.

6. Conditions on Government Use

Trade secrets submitted to governments shall not be disclosed or used for the benefit of third parties except in compelling circumstances involving major national emergencies posing an imminent unreasonable risk to health or the environment, or to facilitate required health and safety registrations. Government use or disclosure on the basis of a national emergency may only be made where other reasonable means are not available to satisfy the need for which the government seeks to disclose or use the trade secret, and the government may use it only for the duration of that emergency. Government use or disclosure to facilitate required health and safety registrations may only be made if the trade secret has not been submitted within the previous ten years and full compensation is made for the use or disclosure. In any case, a government shall not use or disclose a trade secret to an extent greater than required to achieve one of the above needs without providing the submitter with a reasonable opportunity to oppose the proposed use or disclosure, including the opportunity to secure judicial review, or without providing for the payment of full compensation as in the case of personal property.

E. INTEGRATED CIRCUITS

1. Subject Matter for Protection

Protection shall be granted to any original layout-design incorporated in a semiconductor integrated circuit chip however the layout-design may be fixed or encoded.

2. Term of Protection

The term of protection shall be at least ten years from the date of first commercial exploitation or the date of registration, if required, whichever is earlier.

3. Conditions of Protection

Protection may be conditioned upon fixation or registration of the layout-designs. The applicant for a registration shall be given at least two years from first commercial exploitation of the layout-design to apply for registration. Also, if deposits of identifying material or other material related to the layout-design are required, the applicant for registration shall not be required to disclose sensitive or confidential information unless it is essential to allow identification of the layout-design.

4. Rights Conferred

Subject to the provisions herein, and without prejudice to other intellectual property rights, the owner of a layout-design shall have the exclusive right to:

(a) reproduce the layout-design;
(b) incorporate the layout-design in a semiconductor integrated circuit chip;
(c) import or distribute a semiconductor integrated circuit chip incorporating the layout-design; and
(d) authorize others to perform any of the above acts.

5. Limitations on Rights Conferred

(a) Protection shall not extend to layout-designs that are commonplace in the integrated circuit industry at the time of their creation or to layout-designs that are exclusively dictated by the functions of the integrated circuit to which they apply. A layout-design may be reproduced for the purposes of teaching, analysis or evaluation in the course of preparation of a layout-design that is itself original.

(b) It shall not be unlawful to import or distribute semiconductor integrated circuit chips incorporating a protected layout-design in respect of such chips that have been sold by or with the consent of the owner of the layout-design. Any Party may provide that there shall be no liability with respect to the importation or distribution of a semiconductor integrated circuit chip incorporating a protected layout-design by a person who establishes that he or she did not know, and had no reasonable grounds to believe, that the layout-design was protected; however, there shall be a right to a reasonable royalty for such acts after notice is received.

6. Conditions on Compulsory Licenses

A compulsory license may only be given to address, only during its existence, a declared national emergency or to remedy an adjudicated violation of antitrust laws. Semiconductor integrated circuit layout-designs may also be used non-exclusively by a government for governmental purposes. In the case of a license to address a national emergency or use by a government, a semiconductor integrated circuit layout-design owner must receive compensation commensurate with the market value of the license. A compulsory license must be non-exclusive. All decisions to grant compulsory licenses as well as the compensation to be paid shall be subject to judicial review.

IV. ENFORCEMENT PROCEDURES

Obligations for the enforcement of intellectual property rights internally and at the border are an essential part of any agreement on trade-related aspects of intellectual property rights. Standards and enforcement are equal partners in the effort to reduce distortions of trade in goods and services protected by intellectual property.

Enforcement measures and sanctions must effectively deter infringing activity. Thus, Parties should undertake obligations to provide procedures to enforce rights against entities engaged in infringing activities and to provide appropriate remedies. In appropriate cases, this must include criminal sanctions. Safeguards against arbitrary action or abuse of procedures must also be included and Parties must take action to ensure that enforcement measures minimize interference with legitimate trade. The U.S. views on the specifics of enforcement obligations follow:

1. TYPES OF PROCEDURES REQUIRED

Governments must provide procedures and take actions which are effective in preventing and deterring infringement of intellectual property rights and deprive entities trading in infringing goods and services of the economic benefits of such activity.

2. STANDING TO INITIATE PROCEDURES

(a) Procedures must be available to owners of intellectual property rights and other persons authorized by the owner and having legal standing to determine the validity and enforceability of intellectual property rights for the assertion of such rights against any legal or juridical person or governmental entity.

(b) Governments should initiate procedures *ex officio* where effective enforcement requires such action.

3. COMPETENT BODIES TO HEAR COMPLAINTS

Competent bodies to implement procedures may include administrative or judicial or both types of bodies so long as parties designate a competent body and devote sufficient resources to ensure the prompt and effective enforcement of intellectual property rights.

4. ACTIVITIES SUBJECT TO JURISDICTION OF COMPETENT BODIES

Procedures to enforce intellectual property rights should apply at the point of production and commercial transactions, e.g., point of sale, offer for sale, lease, distribution etc. as well as at the border.

5. PROCEDURAL REQUIREMENTS

(a) Procedures for the enforcement of intellectual property rights, whether they be administrative or judicial, civil or criminal must ensure due process of law including:

(i) the right to receive written notice prior to commencement of proceedings which contains information sufficient to determine the basis of the dispute;

(ii) application of the same substantive standards for determining whether an enforceable intellectual property right exists and whether it has been infringed with respect to all products whether imported or locally produced;

(iii) prompt, fair, reasonable, and effective means to gain access to and present to relevant judicial or administrative authorities statements of witnesses and information, documents, records and other articles of evidence for the enforcement of intellectual property rights;

(iv) determinations in writing relating to the infringement of intellectual property rights which must be reasoned and made in a fair and open manner.

(b) Procedures shall not impose overly burdensome requirements concerning personal appearances by the parties, but shall, to the greatest extent possible, permit the parties to appear through representatives and provide a fair and reasonable opportunity for all parties to present evidence, in writing or orally, or both, for consideration by the authorities. Subject to procedures and conditions to ensure reliability and fairness, such as cross-examination and disclosure of adverse information, Parties shall facilitate the acceptance of evidence, including expert testimony, and technical or test data, in order to assist in expediting and reducing costs of participating in enforcement procedures.

(c) Parties shall provide a means to effectively identify and protect confidential information. Any information which is by nature confidential (for example, because its disclosure would be of significant competitive advantage to a competitor or because its disclosure would have a significantly adverse effect upon a person supplying the information or upon a person from whom he acquired the information or which is provided on a confidential basis for a procedure relating to an enforcement action shall, upon cause shown, be treated as such by the authorities. Such information shall not be disclosed without permission of the party submitting it except pursuant to a protective order sufficient to safeguard the interest of such party.

(d) Parties shall facilitate the gathering of evidence needed for an enforcement or related action in the territory of another Party. Procedures may be carried out in other countries to obtain statements of witnesses and information, documents, records, and other articles of evidence relating to an enforcement action, including the assessment of remedies. Parties shall facilitate the taking of such statements and production of such materials in their territories by establishing adequate, timely and efficient procedures. Such procedures shall permit such evidence to be taken in any manner not prohibited by national law. A Party may require prior notification of a competent authority before a statement is taken or materials produced.

(e) In cases in which a party to the proceeding or a government refuses access to, or otherwise does not provide, necessary information within a reasonable period, or significantly impedes the procedure relating to an enforcement action, preliminary and final determinations, affirmative or negative, may be made on the basis of evidence presented by the opposing party.

(f) Relevant authorities shall provide opportunities for the intellectual property right owner, other parties to the proceeding and the governments of the affected countries, to see relevant, non-confidential information that is used by the authorities in a procedure relating to an enforcement action, and to prepare presentations based on this information.

(g) Parties shall make available *ex parte* proceedings to preserve evidence and take other actions urgently required provided that the parties shall be provided subsequent notice of the action and the right to participate in an administrative or judicial procedure providing due process of law.

(h) Parties shall-ensure that procedures to enforce intellectual property rights minimize interference with legitimate trade.

6. RIGHT OF JUDICIAL REVIEW

Parties shall provide the right of judicial review of initial judicial decisions on the merits of a case and final administrative decisions on the merits of a case in disputes arising in connection with the obtaining, maintaining or enforcing of intellectual property rights.

7. CIVIL REMEDIES

(a) Remedies for infringement of intellectual property rights shall include seizure at the border and internally, forfeiture, destruction, and removal from commercial channels of infringing goods, or other effective action as may be appropriate.

(b) Parties must provide interim relief in the form of preliminary injunctions and other appropriate and prompt procedures to prevent the sale or other disposition of allegedly infringing goods pending a final determination on infringement.

(c) Final injunctions, as well as monetary awards adequate to compensate fully owners of intellectual property rights must also be available. In appropriate cases, this should include provision of statutory damages.

8. CRIMINAL SANCTIONS

Criminal remedies shall be available for at least trademark counterfeiting and copyright infringement which are willful and commercial and shall include seizure of infringing goods, materials and implements used in their creation, and forfeiture of such articles, imprisonment, and monetary fines.

9. PROCEDURES RELATED TO BORDER MEASURES

(a) Parties shall afford owners of intellectual property rights and other persons authorized by the owner and having legal standing the judicial or administrative means necessary to initiate procedures to enforce their rights against imported infringing goods before they are released from the jurisdiction of the customs authorities. Parties shall designate the authorities to which owners of intellectual property rights may address themselves for this purpose. Procedures shall also apply to goods in transit provided that they cover goods infringing an intellectual property right of the country through which the goods were being shipped.

(b) The person initiating such procedures shall be required to present adequate evidence of the right to protection in accordance with the relevant laws of the country of importation.

(c) Seizure of goods at the border by competent authorities may be either *ex officio, sua sponte* or at the request of the rights holder when the competent authorities are satisfied that imported goods infringe an intellectual property right.

(d) when the competent authorities have reason to believe imported goods may be infringing, they shall detain such goods pending a determination whether the goods are infringing.

10. ENTITIES SUBJECT TO REMEDIES AND SANCTIONS

Sanctions and remedies shall be available against the producer, seller, distributor and in appropriate cases the user of an infringing good or service. Remedies against

Parties, however, may be limited to payment of compensation to the owner of the intellectual property right.

11. INDEMNIFICATION

(a) In order to prevent abuse of interim procedures and border enforcement measures, Parties may require a rights owner to provide security up to an amount sufficient to hold the authorities and importer harmless from loss or damage resulting from detention where the goods are subsequently determined not to be infringing. However, such securities shall not unreasonably deter recourse to such procedures.

(b) Parties shall make remedies available to provide indemnification in appropriate cases of persons wrongfully enjoined or restrained.

V. Consultation and Dispute Settlement

The GATT's concept and mechanisms for consultation and dispute settlement set it apart from many international conventions and provide a significant benefit to contracting Parties. The United States believes that a multilateral mechanism should be available to settle disputes between governments arising out of the obligations undertaken in any agreement on trade-related aspects of intellectual property. We would take this opportunity to reiterate our views on this question. (See MTN.GNG/NGll/W/14.)

A. The dispute settlement mechanism should follow the model of consultation and dispute settlement mechanisms in GATT agreements, recognizing that additional elements may be needed to address unique features of the subject matter.

B. Resort to the consultation and dispute settlement mechanisms would be available to any Party to the agreement that considers that the obligations of the agreement are not being met or that any benefit accruing to it, directly or indirectly under the Agreement is being nullified or impaired, or that the attainment of the objective of the agreement is being impeded.

C. Recourse to technical expert groups and panels should be available.

D. In the event that recommendations are not complied with, the Agreement should provide for retaliation including the possibility of withdrawal of equivalent GATT concessions or obligations.

VI. Revision and Amendment of the Agreement

As noted in our previous submission, any GATT agreement must be sufficiently flexible to accomodate future consensus on improved protection of intellectual property. The agreement should include new forms of technology and creativity as they appear. parties should agree to a mechanism for amendment and revision of the agreement and should provide for regular review of its terms.

VII. Provisions Drawn From GATT Principles and Other General Concents

A. NATIONAL TREATMENT AND MOST-FAVORED-NATION TREATMENT

The negotiating group will need to address the complex question of national treatment and most-favored-nation treatment. The task of the negotiating group will be to reconcile the concept of national treatment of products and national treatment of persons who are owners of intellectual property. Similar considerations apply with respect to MFN treatment, particularly if one equates MFN treatment with national treatment for persons.

B. TRANSPARENCY

Concepts such as those embodied in Article X of the GATT should apply to intellectual property provisions. Specifically, laws, regulations, Judicial decisions and administrative rulings of general application pertaining to obtaining and enforcing intellectual property rights should be published promptly in such a manner as to enable governments and persons to become familiar with them.

C. INTERNATIONAL COOPERATION

(1) Parties would undertake to coordinate the provision of technical assistance, such as training of appropriate officials, in the implementation of the obligations of the agreement. Assistance could be made available to parties that request such assistance under mutually agreed terms. Parties with economic assistance programs would undertake to include in their programs means to provide direct assistance to

contracting parties interested in improving their intellectual property regimes in order to become parties to the Agreement.

(2) parties shall cooperate to enhance the protection of intellectual property rights in countries not a Party to a GATT agreement by:

(a) Monitoring and exchanging information on the adequacy of intellectual property protection in such countries; and

(b) Taking joint or coordinated action to encourage such countries to provide adequate intellectual property protection consistent with the agreement.

(3) Consistent with mutual assistance agreements for the production of evidence, Parties shall cooperate with each other in the production of evidence for use in civil, criminal and administrative proceedings to enforce intellectual property rights.

PREPARED STATEMENT OF IRVIN ELKIN

AMPI recognizes the importance of agricultural exports. To the extent they strengthen agriculture, dairy farmers will find improved economic conditions as a strong dairy industry can only exist within the framework of a healthy agricultural economy.

The dairy industry is oriented toward the domestic market. AMPS is concerned that U.S. proposals in these trade talks will sacrifice domestic policy in the hope of an agreement on agricultural trade. Nothing is being done to deal with fluctuating currency values or to change the operations of quasi-state trading companies that determine nations' trade policy with respect to dairy products. While the Geneva agreement falls short of the original position advanced by the U.S., it does little to remove our concerns over the direction of the negotiations.

The so-called world market for dairy products is generally regarded as a dumping ground. While U.S. producers are currently making some sales abroad, we have not been a routine participant as U.S. policy has refused to meet the export subsidization of other countries. A weakening of domestic dairy policy through these talks will lead to expanded imports, depressed prices and lost markets.

The real issue with respect to agriculture is whether U.s. producers and consumers will be well served by negotiating away the ability of the United States to determine its domestic food and agricultural policy. We feel very strongly that is not a wise course.

I am Irvin Elkin, a dairy farmer from Amery, Wisconsin and president of Associated Milk Producers, Inc., a dairy cooperative marketing association with 21,000 dairy farmer members in 21 states throughout the central United States. I appreciate this opportunity to comment on concerns of dairy farmers with respect to the multilateral trade negotiations now being conducted under the auspices of the General Agreement on Tariffs and Trade.

The U.S. dairy industry relies heavily on the elements of U.S. food and agricultural policy to maintain the stability necessary to allow the remarkable progress the industry has made over the past forty years. While the U.S. dairy industry has not been a consistent factor in the small international market for dairy products, conditions in that market have the potential to seriously disrupt the domestic industry. For this reason, we have followed developments in international markets and trade negotiations over the years. A few years ago, I served as a member of the National Commission on Agricultural Trade and Export Policy, a Commission created by Congress for the purpose of examining U.S. agricultural trade policy and developing recommendations for its future direction.

The U.S. dairy industry is oriented toward meeting the needs of the U.S. market. In doing so, it has grown to the world's second largest. Efficiency, measured in terms of production per cow, output per man-hour, or other means is unmatched around the world and has few, if any, equals when compared with other industries in this country.

Daily production of a bulky, highly perishable product that must be processed within hours makes the dairy industry subject to a high degree of instability. To deal with this the industry and the U.S. government have worked together to craft market and price stabilization mechanisms to provide a degree of market stability and price assurance for the dairy farmer.

The Dairy Price Support Program offers stability and assurance by providing a "market of last resort" for basic manufactured dairy products. While the program deals in manufactured products, the linkage of milk prices across the country to the basic price for milk used in manufactured dairy products effectively undergirds all milk prices.

Since 1953, a comprehensive system of dairy product import restraints have been established to assure effective operation of the price support program. These limitations have been necessary to prevent the U.S. market from being used as a dumping ground for world product surpluses.

These restraints have been established under Section 22 of the Agricultural Adjustment Act, authority put in place as part of the nation's basic agricultural stabilization policy. Its intent is to assure effective operation of domestic price stabilization programs. It is designed to assure that the price stabilizing efforts of these programs are not diminished by excessive and unneeded imports of commodities which displace domestic production. As such it is an integral element of domestic food and agricultural policy rather than a question of trade policy.

As part of the current trade negotiations, the United States advanced an ill-advised agricultural negotiating concept referred to as "Zero/2000." It called for contracting parties to the General Agreement on Tariffs and Trade to eliminate all trade distorting and trade disrupting agricultural programs on a phased basis by the year 2000. It called for removal of import restraints such as Section 22. It called for elimination of domestic price stabilization operations such as the Dairy Price Support Program. It would remove market stabilizing elements such as marketing orders. It would dismantle virtually all of the agricultural policy elements under which American agriculture has become the most efficient food producing industry in the world.

At the GATT negotiating sessions completed in Geneva two weeks ago, a framework agreement for agricultural negotiations was reached. While it falls short of endorsing the "Zero/2000" concept, we still have a good deal of concern with its direction. Parties to the agreement commit themselves to a series of negotiations over the next 20 months that will "provide for substantial and progressive reductions in agricultural support and protection sustained over a period of time...". An undefined set of GATT rules will cover all measures directly or indirectly affecting import access and export competition. This includes export subsidies, import limitations, domestic price support programs and related items.

Pending completion of the negotiations to implement these goals, the parties have agreed to freeze, within the framework of existing legislation, domestic price support and export assistance at existing levels through 1990. While it is not clear how it will be accomplished, the parties have also agreed to reduce support levels for 1990.

If carried out to the extent possible, the intent of this agreement will result in the U.S. surrendering its ability to forge food and agricultural policy to an international agency. The framework of allowed policy would operate within a set of rules which do not even exist today and over which the U.S. would have a minimum of say in development and implementation.

This is too high a price to pay for the gains predicted.

We are told that with all nations joining in such an effort, American farmers and ranchers—including dairymen—will be major gainers as export markets grow and production is expanded to meet the new demand.

We have grave reservations about such a sweeping policy change. U.S. dairy farmers would be heavily impacted yet there has been no real opportunity for input as this policy has developed.

World dairy markets are characterized by the extensive use of export subsidies, by the operation quasi-state trading companies and by other techniques that distort prices in those markets. The so-called world price for dairy products generally has little or no relation to prices for the same commodities in the countries of origin. The relatively small world market for dairy products is too often a dumping ground with pricing decisions based on what has too be done in terms of export subsidy or similar measures to move the product.

Gains projected from the trade negotiations are predicated on establishment of a "level playing field" in world markets for agricultural commodities. While the U.S. will not outline its posture with respect to the current agreement until later this year, this "level playing field" envisions removal or relaxation of import restraints, export assistance and domestic price stabilization programs. Leaving aside the major cyclical and seasonal instabilities such a policy would force upon the dairy industry, there are other factors which make this policy questionable at best.

Much of the impetus for the Uruguay Round has come from the United States as it sought to expand agricultural export markets. A decline in farm exports in the early 1980's contributed to a major drop in U.S. farm income, decline in farm property values and an economic slowdown in rural America that reached depression proportions in some areas. Action was demanded to address the problem. The agricultural portion of the current trade negotiations are a partial response to that demand.

Unfortunately, what most feel was a major—if not the primary—cause of the loss of export markets is not even under discussion. Foreign exchange rate fluctuation in the early 1980's raised the value of the dollar relative to other currencies, increasing the cost of U.S. farm commodities to foreign buyers. While this was happening, the U.S. farm price for many of these same commodities fell.

The value of the dollar has declined substantially in recent months and we are witnessing an expansion of exports. It will be argued that the current growth is due to aggressive use of export subsidy programs. While these have had an effect, they have generally been matched by similar programs of other exporting nations. The change in the value of the dollar remains the biggest factor in our current export market expansion. Despite the obvious impact of exchange rate fluctuations on these markets, nothing is being done as part of the trade talks to deal with this instability. What will the American farmer, rancher and dairyman do five years hence if the agreement is implemented and the value of the dollar climbs to the levels of the early 1980's with the same result? The lost markets will have disastrous effects on U.S. farm income while the U.S. government will be unable to deal with the problem as it will have already surrendered its domestic food and agriculture policy-making authority to the GATT.

Looking more specifically at operational details of the GATT negotiating concept one of the negotiating approaches used would employ some undefined measuring device to determine the degree to which a nation's agriculture benefits from subsidy or subsidy-like programs. Early this year, it was reported that one of the proposed measurements resulted in a determination that the subsidy effect in the case of the U.S. dairy industry was over $1,000 per cow. It is unclear how this was developed. Some interpreted it to mean the cost of government programs involving the dairy industry. If that were the case, it overstated the cost by about 1,000 percent. Others said it was a measure of the dairy farm income reduction necessary to meet the prices induced by elimination of the price support and related programs. If that were the case, it would mean a cut of 50 to 60 percent in U.S. dairy farm income from 1988 levels.

This illustrates the problem of effectively measuring the subsidy effects of government programs.

A factor of greater concern, however, is that U.S. programs are highly visible—price support programs, market order programs, import limitations. What you see is what you get, so to speak. Other nations' measures are not nearly so clear. Sanitation requirements, inspection demands, product standards and other mechanisms that have justification as means of assuring consumers a pure and wholesome product can easily be manipulated to become a market barrier. General language has been included in the GATT agreement with respect to negotiation is these areas. It talks in vague terms of "harmonization" of measures as a long-term goal but sets no targets or outlines no plan of action as is done with other issues.

Another major consideration is the widespread use of quasi-state trading organizations in world markets for agricultural commodities. Organizations such as the New Zealand Dairy Board enjoy the ability to sell products for whatever price can be achieved in any market in which they operate and then pool total receipts back to their members—the dairy farmers of New Zealand. In doing so, they effectively determine the trade policy—at least with respect to dairy products—of the country. The American dairy farmer is denied this ability but would have to compete with such operations.

U.S. trading partners have made it clear that dairy product import quotas under Section 22 are an import barrier of the most noxious sort. They have requested expansion or elimination of Section 22 limits in previous trade negotiations and have renewed the request in the Uruguay Round. While we are encouraged by Congressional representations with respect to Section 22 at the recent Geneva meetings, our concern continues.

A little review might put things in perspective. When the first Section 22 dairy product quotas were established in 1953, they covered a few basic products. The U.S. Department of Agriculture reports that total dairy product imports in 1953 were 525 million pounds milk equivalent (fat basis) and that products covered by quotas were about 35 percent of the total. Today, with quota coverage expanded to include virtually all except milk protein products, USDA reports dairy product imports on the order of 2.5 billion pounds milk equivalent (fat basis)—almost a 500 percent increase. This does not include the more than six billion pounds of skim milk equivalent that entered the country last year as casein.

Access to the U.S. market has grown substantially over the years. The charge that access is denied, that market growth or market share is ignored simply won't stand inspection.

The members of Associated Milk Producers, Inc. recognize the importance of export markets to American agriculture. Many AMPI members other agricultural commodities that rely on these markets. To the extent that agriculture can be strengthened by export market growth, dairy farmers will find improved economic conditions as well since we firmly believe that a strong, viable dairy industry can only exist within the framework of a healthy agricultural economy.

Any agreement which would essentially surrender the American ability to establish food and agricultural policy would be unwise. The progress of current negotiations provides the basis for a result that will greatly expand imports of dairy products, depress farm income and force producers from business. The strategy to produce a "level playing field" is flawed in that the field these negotiations will produce will be permanently tilted against the interests of the American producer.

PREPARED STATEMENT OF CARLA A HILLS

I welcome this opportunity to meet with the Committee to discuss the status of the Uruguay Round of Multilateral Trade Negotiations. Your hearing today is timely because of the success achieved recently in Geneva. On April 8, delegates from over 100 countries ratified 15 negotiating texts which establish the framework for the final stage of negotiations on the full range of subjects included in the Uruguay Round. The approval of these texts concludes the Mid-Term Review begun in Montreal. I can honestly say, Mr. Chairman, that we are now well positioned to undertake in earnest the final, hard bargaining which will determine whether the Uruguay Round succeeds.

Having said that, however, I want to make it clear to you that we have a very long way to go in this process. The tough part lies ahead. And I want our trading partners to realize that there will be no final concessions from the United States in this Round unless others are similarly committed to substantial reform. Thus far, we have not bound ourselves to final agreements on most important issues. Rather, we have committed ourselves to a realistic negotiating program which can ultimately bring about reform in world trade rules. If others do not negotiate in good faith, it is unlikely the negotiations will result in final agreements that the United States will be able to sign. As a result of the Geneva meetings, however, I am encouraged that others besides the United States are serious about this process, and I am optimistic about the chances for success.

We now need to quicken the pace of our work in Geneva if we are to keep to our 1990 deadline for concluding the negotiations. We also need to intensify our consultations with the Congress and the private sector, so that U.S. proposals tabled in Geneva have been developed only after consideration of the views of all interested parties.

Let me summarize for you the results of the Mid-Term Review and then turn to a discussion of the upcoming timetable. The Mid-Term Review was originally scheduled to conclude with a meeting of trade ministers last December in Montreal. Agreement was reached in 11 out of 15 negotiating areas. Disagreements arose, however, in four negotiating areas—agriculture, intellectual property, safeguards and textiles—leading ministers to put the results agreed from the other 11 negotiating groups "on hold" until the Trade Negotiations Committee was able to work out differences in the four disputed negotiating texts.

The Geneva meetings were intended to break this impasse. From this perspective, I think we were quite successful. We reached agreements on all four framework texts. I believe that the language adopted in these areas both protects our basic interests *and* commits our partners to a meaningful negotiating process. Moreover, the Trade Negotiations Committee lifted its hold on the other 11 texts, thereby enabling negotiations to proceed on the full agenda of the Uruguay Round.

I believe that we have now achieved the objectives first set forth for the Mid-Term Review. These objectives were to:

(1) Achieve some "tangible" results that could be implemented prior to the conclusion of the Uruguay Round;

(2) Provide clear guidance on the issues to be negotiated; and

(3) Reaffirm the political will of governments to succeed by 1990 in all the negotiating areas.

Let me discuss in detail how these particular objectives were reached in the four areas which had been left outstanding from Montreal.

AGRICULTURE

The agreement on agriculture lays out the scope and the process for the negotiations to take place over the next 20 months. The long term objective of these negotiations will be to provide for substantial progressive reductions in agricultural support and protection which will result in correcting and preventing restrictions and distortions in world agricultural markets. All measures which directly or indirectly affect import access and export competition are to be put on the table for negotiation during the final bargaining sessions. Prior to the end of this year, participants will advance proposals to achieve a fair and market-oriented agricultural trading system as well as proposed rules and disciplines to govern the new system. Participants will also submit by that time their proposals to harmonize sanitary and phytosanitary regulations and proposed methods for improving the multilateral dispute settlement process in this regard.

Ministers also agreed to begin implementation of the long-term reform in 1991.

For the short term (i.e., until the conclusion of the Round), there is agreement to hold overall domestic and export support and protection at or below current levels in 1989 with specific commitments on market access and support prices. By October of this year Ministers will provide specifics on their intended reductions in support and protection levels for 1990.

INTELLECTUAL PROPERTY

The agreement is significant because it resolved a key procedural difficulty that has hindered the negotiating group on Trade-Related Intellectual Property Rights (TRIPS) since its inception, that is, whether the negotiation is to cover the establishment of adequate and effective standards for the protection of intellectual property rights. The framework sets out clear guidance to negotiators that it does. In this regard, the text provides that negotiations towards a comprehensive agreement on TRIPS include not only adequate substantive intellectual property standards; but also effective means for enforcement of such standards; and effective and expeditious dispute settlement procedures.

Negotiations on intellectual property are a key component of the Uruguay Round for the United States. Our objective has been to address, through such an agreement, the distortions and impediments to international trade caused by the lack of adequate and effective protection of intellectual property rights around the world.

We can now proceed to negotiate an agreement covering all areas of major concern to the United States. This includes, for example, patent protection for pharmaceuticals and chemical products, copyright protection for sound recordings and computer software, trade secret protection for proprietary manufacturing processes and data, and effective enforcement to stop the counterfeiting of trademarks and piracy of copyrighted materials such as books, motion pictures and recordings. Economic losses due to inadequate protection amounted to an estimated $43–61 billion dollars in 1986 according to a 1988 study by the U.S. International Trade Commission.

The United States' efforts to advance these negotiations have been strongly supported by the active interest and participation of the Congress and the private sector. Due to these combined efforts, the awareness of the importance of adequate and effective protection of intellectual property rights has been increasing in the United States and abroad. Our insistence that this topic be addressed in the GATT is now supported by a significant number of our trading partners.

TEXTILES AND CLOTHING

The agreement, which recognizes the importance of textiles and apparel in the Uruguay Round, calls for participants to begin negotiations later this month on modalities (avenues) that could lead to the application of normal GATT rules to this sector, as agreed in Punta del Este in 1986.

However, in order to integrate textiles and apparel into GATT, we will need to strengthen the relevant GATT rules and disciplines. Negotiations in this area should contribute to the expansion of textile and apparel trade. All countries, developed and developing alike, are to contribute to this process.

SAFEGUARDS

GATT Article XIX contains procedures to provide temporary import relief to domestic industries seriously injured by imports. For many years, GATT Contracting Parties have recognized that the provisions of Article XIX need to be clarified.

The framework allows the work of this negotiating group to go forward without prejudging the position of the participants with respect to the major issues of the negotiation. The agreement establishes a June deadline for the preparation of a draft text which will serve as the basis for negotiations during the remainder of the Uruguay Round. Governments are encouraged to submit their own proposals as soon as possible, preferably by the end of April.

The framework stresses the importance of concluding a comprehensive agreement which establishes multilateral control over safeguard measures, including so-called "grey area measures", which are currently outside of multilateral control. The aim of the negotiation is either to bring such measures under multilateral discipline or to eliminate them.

The understandable focus during the past few months on the above four subjects has obscured the achievements reached at or before Montreal on the 11 other negotiating areas. I won't mention every group, but at Montreal we managed to achieve:

—improvements to the dispute settlement procedures of GATT, an area of vital importance;

—a framework that allows us to conduct the market access negotiations on tariffs and NTMs on a request/offer basis;

—a multilateral package on tropical products of major concern to less developed countries;

—a trade policy review mechanism to periodically examine the trade policies of GATT members;

—guidance on negotiating an agreement on trade in services and development of a draft agreement by the end of the year;

—guidance on negotiating an agreement on Trade-Related Investment Measures; and

—a procedure to introduce new discipline in the areas of subsidies and countervailing duties.

We have used the time since Montreal on these subjects to position the United States for the final 20 months of the negotiating process. For example, the data base to support the market access negotiations is now being developed and we will hold public hearings next month to solicit specific advice about items for inclusion in the initial U.S. request list for the reduction or elimination of foreign tariff and non-tariff measures. We will be prepared to submit our initial request list to our trading partners on specific market access issues *on schedule,* before the summer break.

With your help, we intend to adhere to the deadlines imposed on the negotiating groups and will push our partners to act accordingly. We have been consulting with your staff and the private sector advisory committees on all 15 subjects, and we are now exploring the different types of proposals we want to table in Geneva. We expect that other participants will also have their negotiating proposals on the table by the end of the year. We have an ambitious agenda, and it is important, given other initiatives underway, that the Uruguay Round be concluded by December 1990, as agreed.

In sum, I am delighted to report to you that the Uruguay Round negotiations are advancing once again after the successful outcome of the Mid-Term Review. We have much work to do and little time to waste. I want the Committee to know that I am committed to this effort and that this Administration will spare no effort to achieve a result that significantly strengthens world trade rules and furthers the economic interests of the United States. I hope that the Committee will continue to follow closely developments in the Uruguay Round and provide frequent guidance to us as we conclude these negotiations.

Enclosure.

RESPONSES TO QUESTIONS SUBMITTED BY SENATOR ROCKEFELLER

Question. If all or most of our goals are met in the Uruguay Round, how would this improve our bilateral trading relationship with Japan? I would like to know what would be the direct impact of the negotiations on US/Japan bilateral trade as well as the indirect impact. I would like each area in the Uruguay Round to be specifically addressed. My assumption, for example, is that in the intellectual property area, none of the problems we have in Japan are being addressed. Rather, the Uruguay Round's intellectual property focus is on industrialized world/third world issues.

Answer. The Uruguay Round agenda is broad. Its fifteen negotiating areas encompass issues of importance to the U.S.-Japan bilateral trading relationship as well our relationship with Japan as an key participant in the multilateral trading system. It is fair to say that in nearly every area of the negotiation we expect Japan to contribute to the results. The contribution will vary from issue to issue. These issues are under active negotiation and will conclude by the end of 1990.

We are engaged in negotiations to strengthen the trading system to address the pressing trade problems of the present and the future. In the new areas such as trade-related intellectual property rights, services and trade-related investment we are counting on Japan to work with us to establish new rules and disciplines that protect our mutual interests and foster competition.

The United States is actively pursuing intellectual property issues with Japan in both a multilateral and a bilateral context with Japan. We are involved in discussions with the Japanese and the European Community on the harmonization of patent codes. In addition, there is a bilateral working group in which the U.S. and Japan discuss a broader range of intellectual property issues. In the Uruguay Round negotiations, we share many of the same objectives with Japan in assuring the effective protection of intellectual property rights through established norms and standards and an effective enforcement and dispute settlement procedure. We would expect that the results will address many of the bilateral problems we face with Japan as well—trade secret protection is one example.

In the rule-making areas of dispute settlement, safeguards, subsidies and GATT Articles our expectation is that the results of the negotiation will be such that our economic operators are competing under the same rules in a transparent and predictable fashion.

In terms of market access and agriculture, the "results" may be more quantifiable. We recently provided Japan with our initial requests for the reduction and elimination of product-specific tariff and non-tariff barriers. Similarly, our other trading partners are making requests of Japan and concessions are to be provided on a most-favored-nation basis. In agriculture, the issues are more difficult but no less important. The Japanese understand that the multilateral agricultural reform will require changes in their own agricultural programs and policies ranging from domestic support to market access.

In the context of the Uruguay Round negotiation, a successful outcome with Japan would certainly contribute to improving our bilateral relationship by removing or reducing problems of concern to U.S. exporters. In the larger multilateral setting, the negotiations provide an additional opportunity to hold the Japanese to their commitment to take on more responsibility for the world trading system.

RESPONSES TO QUESTIONS SUBMITTED BY SENATOR DASCHLE

Question. Out of the Mid-term Review there was a short-term agreement regarding agriculture. Does this in any way bind you to any long-term positions or agreements? Does the short-term agreement affect or require any legislative action? How were the record import levels on such commodities as oats, pork and beef in 1987 and the drought-reduced production levels of 1988 considered in the agreed import levels of the short-term agreement? Finally, does the short-term agreement affect or influence the flexibility of farm policy determination?

Answer. The short-term part of the framework agreement does not bind us to any long-term positions and does not require legislative action. There is a specific commitment not to intensify tariff and non tariff market access barriers in force at the date of the agreement. This, however, can be overridden if existing domestic legislation so requires. There are no import restrictions on pork or oats, only tariffs. We would be in compliance if tariffs on these products remained the same as presently. In addition to tariffs on beef imports, we have had voluntary export restraint agreements with Australia and New Zealand in 1987 and in 1988 under Section 204 of the Agricultural Act of 1956. Existing legislation (either Section 204 or the Meat Import Act of 1979) would permit us to restrict imports again should that be necessary. The short-term part of the framework agreement does not commit us to do anything different from what is required in current legislation.

Question. Section 22 of the Agricultural Adjustment Act was intended to assure effective operation of domestic price stabilization programs. Would you please discuss this measure in terms of its effect on U.S. farmers, the benefits/costs to U.S. consumers, the magnitude of the U.S. trade deficit, and what you are willing to give up? In your view, does the short-term agreement prevent the implementation of Section 22 for any commodities for which it may be authorized but not currently in use?

Answer. We have said that Section 22 is on the negotiating table so long as other countries' policies which restrict imports are there too. Indeed, a significant accomplishment of the framework agreement is the reaffirmation that all policies which affect import access are on the negotiating table. Since the outcome of the negotiations is still 20 months away, it would be impossible to speculate on the effects of changes in Section 22 at this point in time. The short-term part of the framework agreement does not prevent the implementation of Section 22 for any commodities for which it may be authorized but not currently in use.

Question. You have noted that all measures which directly or indirectly affect import access and export competition are to be put on the table for negotiation. Does the "all" include 1985 Farm Bill authorities like lower loan rates, export enhancement programs, marketing loans, targeted export assistance, etc.? Would you please discuss each of these measures (and any others that you view as significant) in terms of their effects on U.S. farmers, the benefits/costs to U.S. consumers, the magnitude of the U.S. trade deficit, and what you are willing to give up? Does "all" mean that the EC's "variable levies" and "rebalancing" are on the table? What are the U.S. trade-distorting agricultural exports? What are the EC trade-distorting agricultural exports? Finally, do you view the objective of the agriculture negotiations to be "free" agricultural trade or "fair" agricultural trade?

Answer. The framework agreement provides a listing of the policies which are on the negotiating table under the headings of import access, subsidies and export competition, and export prohibitions and restrictions. It does not include a listing of which of those policies are trade distorting. That is a subject for negotiation over the next 20 months. Variable levies are captured in the words "measures not specifically provided for in the GATT" which you will find under the import access heading.

We refused to include in the text any reference to "rebalancing" or "adjustment of protection", language which the EC had wanted. The EC had no support for including this concept in the text among members of the Trade Negotiating Committee. However, we fully expect the EC to submit proposals in this area under the work program. Indeed, anyone is free to submit proposals for consideration, but we don't think "rebalancing" will be any more palatable in the future than it was in these talks.

Since the outcome of the negotiations is still 20 months away, it would be impossible to speculate on effects at this point in time. In our view, the objective of the negotiations is to provide a market-oriented environment for trade in agricultural products where U.S. farmers can compete on a fair and equitable basis.

Question. The Aggregate Measure of Support (AMS) is a prominent element of the agriculture text; what are your views of the advantages and disadvantages of the AMS? As compared to the alternative used in the Canada-U.S. Free Trade Agreement, what are the relative advantages and disadvantages that you see in the AMS? In your view, is there a relationship between the AMS and tariffication? How do you view the process of defining what are subsidies and forms of support that should be tariffied.

Answer. Aggregate measures of support quantify the level of government intervention in the marketplace resulting from a wide range of government programs. Economists have developed several types of aggregate measures that differ primarily due to the policies included in the specific measure. A good discussion of these measures and the advantages and disadvantages of specific measures, such as the Producer and Consumer Subsidy Equivalents, is found on pages 101–108 of a publication by the Economic Research Service of the U.S. Department of Agriculture entitled *Agriculture in the Uruguay Round: Analysis of Government Support* published in December 1988. The measure of support used in the Canada-U.S. Free Trade Agreement is an example of how the general concept was adapted to a specific situation. The character and form of an aggregate measure in the Uruguay Round will be dependent upon the nature and form of the final agreement in the negotiations.

Tariffication is a technique for converting nontariff market access barriers to tariffs, whereas an aggregate measure of support has been used to quantify border and domestic price policies. Only import access barriers would be converted into tariffs.

Question. The agriculture text calls for basing health and sanitary regulations on sound scientific evidence. How do you interpret this to affect the current dispute with the EC over imports of hormone treated beef. Will you continue to insist that U.S. hormone treated beef be allowed to enter the EC? What is the current status of the negotiations between the U.S. and EC on this issue?

Answer. The GATT statement that health-related trade measures should be "consistent with sound scientific evidence" conflicts with the present EC hormones ban. However, it is difficult to say whether the EC will now be any more receptive to a scientific review of their ban, which is an approach the United States has advocated many times. We will certainly continue to maintain the principle of the hormones issue, i.e. that the ban is scientifically unjustified and thus should be revoked. The United States and EC have been able to reach an understanding which would allow the shipment of some untreated beef to the EC based on producer self-certification. However, this understanding is viewed by the United States as only an interim measure and by no means a final resolution of the hormones issue.

Question. In the context of the agriculture agreement, how do you interpret the term "developing countries"? In your view, what are the prospects for degrees of special and differential treatment, in the long-term agreement on agriculture, regarding the level of development within specific developing countries (e.g., strong agricultural exporters like Argentina and Brazil)?

Answer. Developing countries are not expected to participate in the short-term commitments and the role that developing countries play in the long-term process is yet to be negotiated. The issue of graduation will have to be dealt with in the context of the long-term agreement. We will work to ensure that developing countries adhere to any new rules and disciplines that are negotiated commensurate with their level of development, as agreed to in the Punta del Este Declaration.

Question. What is your interpretation of the agriculture text's provision that each country submit a proposed long-term domestic farm bill by the end of 1990? Does this require and is it preferable, that the Congress develop a new farm bill for 1990, rather than waiting for the end of the negotiations?

Answer. The Mid-term Review Agreement does not explicitly require countries to submit proposed domestic legislation before the end of 1990. December, 1990 is the ending date of the negotiations by which time a final agreement must be reached. That agreement would then have to be implemented in domestic legislation. Nevertheless, the 1990 Farm Bill has important implications for the negotiations, and its preparation should take into account the developments in Geneva. As Secretary Yeutter has recently stated, we should enact a farm bill that serves the fundamental needs of American agriculture while also enhancing our leverage at the negotiating table. We want to emphasize that the Administration intends to consult fully with Congress during the preparation of the new farm bill and throughout the Uruguay Round negotiating process.

Attachment.

AGRICULTURE IN THE URUGUAY ROUND—ANALYSES OF GOVERNMENT SUPPORT

METHODOLOGY: PSEs AS AGGREGATE MEASURES OF SUPPORT

JOHN WAINIO, BARBARA CHATTIN, AND JOHN SULLIVAN

While the rapid increases in agricultural trade during the 1970s fostered greater global interdependence, governments were simultaneously taking actions designed to protect domestic producers from the effects of the world market. Government intervention in agricultural trade is today the rule rather than the exception (*31, 42*) and has obscured global interdependence. Governments have separated domestic markets from the international market by using a bewildering array of nontariff barriers instead of traditional tariffs. Commodity markets have become so distorted and assistance has become so costly that the major agricultural trading nations will attempt to reduce the level of government intervention in agricultural markets at the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) negotiations.

Reducing government intervention in world agricultural markets requires an understanding of the policy measures used to assist farmers and the effects these policies have on domestic and international markets. Economists have worked on developing appropriate aggregate measures designed to quantify, in one parameter, the level of government support to agricultural producers. This work has helped to make the nature and prevalence of subsidies to agriculture more transparent. Use of an aggregate measure of support may help the parties in the GATT come to an agreement on reducing government assistance to agriculture as well as provide an instrument to aid the monitoring of the agreement. Researchers in the Organization for Economic Cooperation and Development (OECD) and USDA's Economic Research Service (ERS) have devoted considerable effort towards calculating one such measure, the producer and consumer subsidy equivalent (PSE/CSE).

We examine the PSE/CSE approach in this section. First, we compare the PSE/CSE method to other aggregate measures of support. Next, we review procedures for calculating PSE/CSEs. Finally, we discuss uses and interpretations of the PSE/CSE measure.

AGGREGATE MEASURES OF SUPPORT

Aggregate measures of Support quantify the level of government intervention in the marketplace resulting from a wide range of government policies and programs. Support measures are usually percentages or ratios. The breadth of policy coverage captured in the numerator as well as the reference point used for the denominator differ among Support measures. Research has focused primarily on three aggregate measures: nominal rates of protection (NRP), effective rates of protection (ERP), and PSE/CSEs. Table 25 shows examples of policies included in each of these measures.

The NRP was the earliest used aggregate measure and, theoretically, the simplest (*3*). The NRP is expressed as the difference between domestic and world price, divided by world price. An NAP equal to 0.5 indicates that domestic price exceeded world price by 50 percent. (Another way of expressing the same result is with a nominal protection coefficient, which is domestic price divided by world price, or 1.5 in the example above.) The NRP measures the effects of border policies including tariffs, quotas, variable levies, and export subsidies as well as other trade or related domestic policies. Also included are price effects from import/export control operations of marketing boards and state trading organizations.

TABLE 25.—POLICIES INCLUDED IN VARIOUS AGGREGATE MEASURES OF SUPPORT

Policy measure	NAP	ERP	PSE	CSE
Support to output:				
Via market price support—Border measures (tariffs, quotas, variable levies, export subsidies)	x	x	x	x
Export taxes (negative)	x	x	x	x
Two-price systems	x	x	x	x
Price premiums	x	x	x	x
Domestic price supports	x	x	x	x
Marketing board activities	x	x	x	x
State trading operations	x	x	x	x
Via direct income support—				
Deficiency payments	(1)	(1)	x	
Producer levies (negative)	x	x	x	
Income stabilization funds			x	
Crop insurance			x	
Consumer food donations				x
Marketing subsidies:				
Transportation subsidies			x	
Marketing programs			x	
Inspection services			x	
Assistance to inputs:				
Fertilizer subsidies		x	x	
Fuel tax exemptions		x	x	
Concessional credit			x	
Irrigation subsidies		(1)	x	
Assistance to long-term production:				
Research and extension			x	
Conservation programs			x	
Structural programs			x	
Controlled exchange rates			x	x
Tariffs on purchased inputs		x		

Notes: (1) These policies are included if they are assumed to directly affect outcome output or input prices.

Source: Adapted from definitions found in (*37*, *49*).

The NRP generally measures policies that affect both consumer and producer prices. The NRP can also include policies, such as a target price/deficiency payment program, that change only producer prices, not consumer prices. Such policies would not be included if they were considered lump-sum income transfers. The NRP is estimated using producer prices and world prices for bulk commodities. The examples shown in Table 25 are based on such an interpretation. An NRP for consumers as well as producers can be developed using consumer prices.

In addition to supporting producers' gross income through policies directly tied to agricultural output, governments can support producers' net income through policies that lower the cost of inputs. Economists have developed the concept of an effective rate of protection (ERP) to measure the combined effects of policies that separate both output and input prices from their respective world prices (*10, 11*). The ERP is the difference between the value added per unit of output at domestic prices versus at world prices, divided by the value added per unit of output at world prices. Value added is the value of the final output less the cost of purchased intermediate inputs. Calculations of value added require input-output coefficients that are not readily available across countries. The ERP measures the effects of border measures and price policies that influence both the price of the output and the price of intermediate inputs. The ERP excludes policies that provide lump-sum income transfers or lump-sum input subsidies to producers. For example, the ERP would not include irrigation infrastructure expenditures but would include subsidies for below-market pricing of water from those projects. Likewise, the ERP would include deficiency payments if they affected output price.

The PSE is the level of producer subsidy necessary to replace current agricultural programs in order to leave farm income unchanged (*13, 14*). The CSE is defined correspondingly. PSEs often are expressed as the total value of subsidies as a percentage of adjusted producer income (cash receipts plus net direct payments), while CSEs are expressed as the total value of subsidies as a percentage of consumer expenditures. The first calculations of PSEs and CSEs included only commodity-specific policies, such as pricing policies, deficiency payments, input subsidies, storage subsidies, and transport subsidies (*13, 14, 21*). Calculations of PSEs and CSEs by the OECD broadened policy coverage to include indirect income support and government programs that are not necessarily commodity specific, such as structural programs, research, and extension (*31*). ERS has extended the OECD measure to include the effects of exchange rate distortions in several developing countries (*49, 50*).

PSE/CSEs include more government policies than does the NAP, thus satisfying one objective of the ERS study, which was broad policy coverage. Another objective was to provide a measure for consumers, which the ERP does not include. The PSE and ERP measure effects of government policies that reduce the price paid by agricultural producers for purchased inputs. The ERP also measures the implicit taxation of producers when domestic input sectors are protected from international competition by border measures. A PSE measure could be developed to include the effects of such policies if the policy coverage of the PSE measure were broadened to include economywide as well as agriculture-specific policies. Expanding the policy set would also require reliable data on relevant input policies and input use by commodity. The ERS study focused on government programs within the agricultural sector and, in some cases, effects of controlled exchange rates. The following section provides a more detailed summary of policies contained in PSEs and CSEs and how the estimates are derived.

The current interest in agricultural protection has led to the development of additional support measures, including the nominal rate of assistance, the effective rate of assistance, and the trade distortion equivalent. The nominal rate of assistance (also known as the price adjustment gap) is closely related to NRP, differing only in the set of interventions measured. The nominal rate of assistance includes support provided by border measures and pricing policies (the NRP) plus other forms of direct assistance (such as deficiency or disaster payments) affecting producer's unit gross returns (*18, 28*).

The effective rate of assistance is similar to the ERP but, in addition to including assistance as value added per unit of output at domestic price, also includes government expenditures on programs that affect the cost of inputs and marketing services purchased by the producer as well as programs that affect primary factors of production (land, labor, and capital) (*18, 28*). The nominal rate of assistance includes more policies than the NAP but fewer than a PSE, whereas the effective rate of assistance includes all policies contained in the PSE plus all policies that affect purchased and primary inputs.

All of the aggregate support measures mentioned above are static indicators of the level of protection provided by government policies (*26, 27*). The trade-distortion equivalent, however, attempts to determine what market behavior would have been in the absence of government programs. Measures of protection (like the PSE and CSE), supply and demand elasticities, and domestic production and consumption levels are used to derive the trade-distortion equivalent.

Measures of protection, including the trade-distortion equivalent, are always based on a partial equilibrium framework, estimating the effects of government policies given current levels of production, consumption, trade, and prices. These measures can be used as a policy input into a simulation model of world agricultural trade (*36*). The simulation model can identify the effects of policies on trade volumes more accurately than a single-commodity trade-distortion equivalent because the model incorporates cross-commodity, cross-country effects that are not included in trade-distortion equivalents.

Estimating PSEs and CSEs

The PSE and CSE estimates derived by ERS cover a broad range of countries and commodities. PSEs and CSEs are calculated for each commodity in a country using local currencies. While each country has a set of policies peculiar to its agricultural sector, using a standard framework to measure the effects of these policies permits comparisons among countries and commodities.

ERS subsidy estimates measure six broad policy categories: market price support (involving border measures and domestic pricing policies), direct income support, input policies, marketing programs, policies affecting long-term production, and controlled exchange rates. Table 25 gives examples of policies included in each category. PSEs and CSEs sum subsidies from these programs by assuming that program benefits are additive. ERS subsidy estimates apply to individual commodities without including cross-commodity effects, such as the effect of price supports for grains on livestock producers.

PSE and CSE components are derived in two ways: (1) by calculating the wedge that a policy instrument drives between domestic and world prices and multiplying the price wedge times total production (PSE) or total consumption (CSE), and (2) by using government budget or financial information. Price wedges help derive estimates for government policies that directly affect producer and/or consumer prices. Government budget or financial data help estimate effects of policies on either the producer or the consumer, but not both.

In rare cases, a tariff is the only government policy that directly affects market prices. A tariff rate is treated like a price wedge in the PSE/CSE method. More often countries use a mixture of administrated prices, border measures (tariffs, quotas, variable levies, export subsidies, state trading) and, in some cases, stocking or supply control programs to separate domestic prices from world prices. For example, many governments intervene in the dairy sector through minimum price policies, at times accompanied by direct purchases, stocking, and supply controls. Such countries must also restrict imports of dairy products by border measures such as tariffs or quotas. If not restricted, imports will likely flow into that country in search of the higher domestic price. Where policy instruments are functionally linked, that is, when one is implemented to support the other, PSEs and CSEs estimate the net effect by measuring the price wedge caused by the set of policies, rather than attempting to isolate the effect of each policy instrument.

Another type of pricing policy used in some countries is a two-price system whereby the domestic consumer price is set above or below the export price of the product. Exports are sold at prevailing world prices. The price gap used to calculate benefits from such programs is determined by comparing the supported domestic price with the world price (export price) and applying the difference to the quantity of domestic consumption. In a two-price system, the price wedge is not applied to all of production because the policy acts only on a part of production (the quantity consumed domestically).

Comparing domestic to world reference prices is a common technique used to estimate market price support components of the PSE and CSE. Country-specific reference prices, not a single observed world price, are used in ERS calculations. A specific rather than a common reference price better represents differences in quality and grades of the commodity produced in the country. The reference prices used in the calculations are derived from observed world market prices, which, in turn include effects of government policy actions in agricultural and financial markets. Almost all traded commodities are priced in U.S. dollars, no matter who buys or sells the product. Thus, when the value of the dollar appreciates, the world reference price observed by countries other than the United States rises, and vice versa. Countries supporting producer prices above world prices find that the price wedge is narrower than it would have been under constant U.S. exchange rates unless their agricultural policies are responsive to world prices. The price wedge would be larger for countries that tax agricultural producers through price policies and border measures.

PSE and CSE components for other agricultural programs are derived using government budget or financial data. Generally, producer direct income transfers from commodity programs and direct consumer subsidies are reported by commodity in government budget accounts. For example, when a country offers a production subsidy by means of deficiency payments, treasury outlays will be increased to cover the cost of the subsidy and reported in the budget by commodity. Government accounts report some input subsidies on a commodity basis. In other cases, government budget or financial data show the aggregate amount given to a particular function, such as research, marketing, or infrastructure development. In these cases, the data are allocated across all commodities that receive support in proportion to each commodity's share in the value of agricultural output.

Many countries have introduced supply control programs in recent years and it has been suggested that these countries receive some credit in the PSE calculation (thereby lowering the PSE) to reflect these programs. At present, PSEs do not include government outlays related to permanent or long-term resource retirement programs because such programs presently remove resources from production. An effective supply control program reduces production from what it would have been in the absence of the program, therefore total government transfers are lower than in the absence of the program. If a country's trade share is large enough to affect world prices, a supply control program also will raise world prices higher than they would have been in the absence of the program, thereby reducing price wedges used in the PSE and CSE calculations. In this case, the observed production, consumption, and price data used to calculate PSEs and CSEs would include these effects of supply controls; therefore they are not explicitly measured elsewhere in the PSE calculation.

Uses and Interpretation of Subsidy Equivalents

By aggregating a variety of government policies into one parameter, subsidy equivalents allow comparisons to be made of government support across countries, commodity markets, and types of policies that would otherwise be impossible. The calculation and publication of PSEs and CSEs by ERS and the OECD has made the extent of subsidies to agriculture more transparent to commodity groups, policymakers, and the public.

PSEs and CSEs show the relative importance of government policy in different countries and commodity markets in terms of its contribution to farmer revenues and consumer costs. Subsidy equivalents help identify which forms of government assistance are most important in individual countries or in specific commodity markets. When examined over time, subsidy equivalents indicate changing government involvement in the agricultural sector.

PSE estimates are expressed in three ways: (1) the total value of transfers, derived by summing the estimated value for each policy or group of policies; (2) the per unit value of transfers, derived by dividing total transfers by total production; and (3) the percent PSE, estimated as total transfers divided by adjusted producer income. The CSE can be similarly expressed.

If information is available to calculate PSE/CSEs for enough countries and the data are converted to a common currency, comparing total value of transfers across countries gives a good idea of an individual country's contribution to global assistance. The value of transfers can also be used to examine the effect of specific types of intervention, such as marketing subsidies, on the total transfers for a country, group of countries, or a particular commodity. Total policy transfers, however, do not allow the ranking of intervention levels among different-sized countries. The per unit estimates, expressed in a common currency, can show relative levels of intervention for a particular commodity but do not provide a means of comparing support levels across commodities. The percent PSEs and CSEs often help make comparisons across countries or commodities.

The percent PSE relates total government support for a commodity to a specific definition of producer income: production valued at market prices plus commodity-specific direct income transfers. The denominator does not include all transfers from government to producers. Noticeably missing are the effects of policies that provide input support, marketing support, or research and extension services. If a country provided a significant amount of support to farmers via these latter types of programs, excluding the programs from the denominator would make that country's percentage PSE larger, possibly greater than 100 percent. Second, in comparisons of PSEs over time, a country that changed its policy support profile away from these programs into price-distorting programs or direct payments could maintain the same (or higher) support to farmers while still lowering its percentage PSE. Interpreting comparisons based on percent PSEs requires considering these issues.

The percent PSE shows the effect of government transfers on an income measure that is a rough approximation of gross cash income from the commodity. The numerator includes government programs that affect cash income and cash expenses as well as outlays for programs, such as research, that may not have a one-to-one relationship with gross cash income. The transfers measured by the PSE include elements that affect both net and gross cash income but, without additional data, cannot be used to analyze effects of government programs on farm financial well-being. For example, concluding that, if all government programs were removed, farm incomes would decline by the value of transfers estimated by PSEs would be erroneous. Farm income in the absence of government programs would depend on the new levels of production, consumption, trade, and prices. PSEs simply measure the value of government transfers under current policy and market conditions.

PSEs and CSEs alone do not reveal distributional effects of countries' policies. For example, PSEs can indicate whether the grain sector receives more or less assistance than the dairy sector. PSEs cannot show whether the transfers for grains are received equally by all producers or if some grain producers receive proportionately more of the transfers from a given program. PSEs also do not indicate whether the grain farmers receiving the transfers are already wealthy or poor. Similar issues arise in interpreting CSEs.

Subsidy equivalents are static measures based on prices, production, consumption, and trade under current policy conditions. They do not indicate the effects of current government policies on domestic and world markets. Two countries may have the same PSE level and yet have very different effects on agricultural markets.

The trade effects of a country's policies may differ with the same PSE for three reasons. First, different policy instruments produce different trade effects. For example, deficiency payments stimulate production but do not have a direct effect on consumption. Quotas, by raising both producer and consumer prices, reduce demand and increase supply. A second reason is that producers and consumers in different countries may respond differently to the same type of government intervention due to technological factors, resource constraints, social and political factors, and market characteristics. Finally, the impact of a country's policies on world markets will depend on the country's trade share. The larger a country's share in world trade, the more impact that country's policies will have on world markets.

PSEs and CSEs also do not show the effects on world markets of removing government programs. Estimating effects of liberalizing agricultural trade by removing government support requires multi-commodity, multi-country trade models. The OECD, the World Bank, and ERS have developed several such models (*31, 47, 36*). The policy structure in these models relies on subsidy equivalents or some other aggregate measure. This measure is then removed, shocking the model from the observed equilibrium situation.

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[NEWS RELEASE]

MPEAA DOCUMENTS BETWEEN $886 MILLION AND $987 MILLION IN LOSSES OVERSEAS DUE TO TRADE CONSTRAINTS

New York, NY, March 23, 1989—The Motion Picture Export Association of America (MPEAA) submitted an 87-page report to the United States Trade Representative today, which lists a broad array of trade barriers and market restrictions that confront international distribution of American movies. These market and trade barriers, along with lack of copyright protection in certain nations, contribute to an annual loss of as much as $987 million annually to the MPEAA's member companies—eight major Hollywood studios.

A range of detailed loss estimates are reported for many countries. Of those estimates reported, the losses range between $886–$987 million annually. It is believed actual losses exceed $1 billion, since loss estimates were not available for every country.

"Most market barriers are supposedly designed to promote the local film industry," explained MPEAA Chairman Jack Valenti, "but history has proven that to be an illusion. Market barriers harm the very people they claim to help. Nations that do not afford adequate intellectual property protection cannot guarantee their own filmmakers any measure of success in guarding against theft of their own products. Other types of market barriers, such as screen quotas and service restrictions often weaken the local business, which in turn shrinks the demand for films and short changes local tax collectors from revenue. The local film industry is the loser."

The MPEAA's report has detailed entries for 53 countries from Algeria to North and South Yemen as well as summaries for the European Community (EC) and regions such as the Caribbean and Central America. The MPEAA estimates the annual contribution of the motion picture industry to the U.S. economy at almost $4 billion. The industry contributes positively to the U.S. balance of trade by bringing into the country $2.53 billion.

The report discusses a variety of trade barriers in overseas markets, many of which target only imported product. The most common categories of trade barriers include:

Import and distribution quotas, which include such market mechanisms as screen or broadcast quotas that set limits on the amount of foreign product which can be shown and exists in countries such as Burma, Colombia, India and Indonesia.

Lack of adequate and effective copyright protection and treaty relations, which serves to open a market to widespread piracy. Examples include: Greece, Korea, Taiwan, Turkey and many countries in the Caribbean and Latin America.

Service barriers, which refer to controls placed on film distributors in terms of dictating what services they must employ. For example, local enterprises such as film duplicating or dubbing facilities may be specified with the intent of generating business for local enterprises. These barriers often force filmmakers into distributing their products through third parties, or force them to use over-priced services that can negate any commercial advantage in doing business in that market. Examples of where service barriers exist, include: Argentina, Brazil, Korea, Indonesia and Mexico.

Subsidies, which may include tax rebates, cash awards, government loans or outright government grants to local filmmakers. These benefits are often shouldered by foreign filmmakers, who in some cases are denied access to this very pool of funds they supply. Examples of countries with subsidy programs include: Australia, Egypt, Italy and India.

A recent market mechanism developed as an unfair burden to American filmmakers overseas involves *video levies,* which are fees put on blank tapes and sometimes VCRs to compensate copyright owners for home taping of their products. Unfortunately, in many cases these monies are siphoned off by governments—mostly in Europe—for special projects and otherwise redistributed at the expense of American producers who should be entitled to a share of these payments. Austria, France and West Germany are examples of countries with video levies.

Piracy is the number one problem facing American film distribution overseas. It is typically the result of weak or ineffective copyright laws and treaties. Last year, the USTR announced in a major study on foreign protection of intellectual property rights that U.S. industries suffered losses of between $43-$61 billion annually because of copyright, patent and trademark infringement. Overseas film, video, cable and satellite piracy alone account for approximately $740 million in lost revenues.

The next most common trade barrier facing American motion pictures is the screen quota. Fifteen countries maintain some type of screen quota with some countries using several types of screen quotas.

Among those countries, which present some of the worst trade barriers to the American film industry are: Brazil, Colombia, India, Indonesia and Taiwan. Countries with particularly difficult piracy problems include: Cyprus, Egypt, Korea, the Philippines, Sri Lanka, and Turkey.

In Indonesia, for example, the government has refused to permit the opening of distribution offices by foreigners, which prevents MPEAA member companies from directly entering the theatrical market and developing the home video market. An array of taxes, duties and fees also impede business development and, an outright ban on feature films for television further curtails market entry.

In Korea, one of the harshest screen quotas exist and local film distributors have historically enjoyed a statutory monopoly on the importation and distribution of all foreign films. The MPEAA has twice filed complaints under Section 301 of the Trade Act against Korea for these kinds of practices and some changes are underway. The law against direct distribution of films by U.S. companies has been rescinded, but local distributors have attempted to block foreign access through means of intimidation and vandalism. A new copyright law was adopted in 1987, but enforcement has been lax or nonexistent and the Korean video market is currently plagued with a 40-60% piracy level. In terms of American movie titles, the home video market is as much as 90% pirated. MPEAA member company losses due to piracy in Korea are estimated at between $10-$20 million.

"The American film industry does not want nor seek protectionist legislation in the U.S. to retaliate against these inequities," said Valenti. "All we ask is to be treated fairly, to be able to compete in foreign countries free from discriminatory or burdensome trade restrictions."

This is the fifth year the MPEAA has provided a report to the United States Trade Representative on international trade restrictions facing its member companies overseas.

"By describing and pinpointing trade barriers worldwide," said Valenti, "the MPEAA lets the U.S. government know about these painful restrictions. Policy makers now have full information about foreign practices harmful to U.S. business, which helps our government shape American trade policy."

The MPEAA's member companies include: Buena Vista Pictures Distribution, Inc.; Columbia Pictures Entertainment, Inc.; MGM/UA Communications Co.; Orion Pictures Corporation; Paramount Pictures Corporation, Twentieth Century Fox International Corp.; Universal International Films, Inc., and Warner Bros. International, Division of Warner Bros. Inc.

News Release

FOR IMMEDIATE RELEASE

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SHEET METAL WORKERS' NATIONAL PENSION FUND ENTERS AGREEMENT WITH CHRONAR CORP. FOR A $13 MILLION SEMI-AUTOMATED AMORPHOUS SILICON PHOTOVOLTAIC MANUFACTURING PLANT

Princeton, N.J., January 7, 1988 -- Chronar Corp. (NASDAQ:CRNR) today announced that it has entered into definitive agreements with the Sheet Metal Workers' National Pension Fund to establish a $13 million 10-megawatt semi-automated photovoltaic panel manufacturing plant. Photovoltaic (PV) panels are solar devices that convert light energy directly into electricity.

Pursuant to the agreements, the Company has received a down payment of $3.5 million from the Pension Fund. The balance of $9.5 million will be paid to Chronar in several installments.

The Pension Fund will lease or acquire a suitable site which Chronar is responsible for identifying. In addition to the $13 million turnkey package, it is anticipated that the project will require up to an additional $6 million in financing for general working capital purposes. Chronar is responsible for obtaining these funds, which will be secured by the Pension Fund's pledge of the equipment.

Chronar will manage the facility and market its products pursuant to a 10-year management and services agreement. This agreement provides that Chronar will receive an annual $150,000 management fee payable from positive cash flow and reimbursement of its management expenses payable from revenues and working capital financing. As owner of the plant, the Pension Fund will receive a priority amount of the venture's net income. After this amount, the venture and Chronar will evenly divide remaining net income. Chronar will receive its usual 5% technology royalty as part of its share of profits. Chronar has agreed that the plant will commence operation not later than April 1989, and will run on not less than a one-shift basis throughout the term of the agreement.

Chronar is now in the final stages of selecting a site for the plant and is in discussions with various states and municipalities to determine a suitable location. Further, Chronar, with the Pension Fund's support, is seeking participation in the project by an electric utility. Chronar expects to complete site selection and the choice of a possible utility partner by March 1988.

This is the first of a new generation of semi-automated PV panel manufacturing plants designated by the Company as "Eureka" plants.

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Pursuant to a separate agreement, the Pension Fund will receive a payment from Chronar of 6% of the proceeds of each sale to third parties of subsequent Eureka plants or interest therein and 6% of the cost allocatable to Chronar's interest in each Chronar-owned or affiliated Eureka facility. The Pension Fund, or its designees, have agreed to perform certain consulting services in exchange for these fees. Further, the Pension Fund will be entitled but not obligated to purchase each fully automated flow line plant to be located in the United States or Canada or up to 50% of Chronar's equity in each flow line plant sold to a third party or constructed for its own use for a period of five years from the time of the first such sale. In the event that the Pension Fund does purchase a future flow line plant, Chronar will accept as part payment the Eureka equipment at its then depreciated book value.

The first Eureka facility will have a 10-megawatt capacity, eight times as large as any other of Chronar's existing amorphous silicon PV plants. The Company believes that direct manufacturing costs of the Eureka facility will be substantially lower than at its existing batch plants, which Chronar believes already have the lowest production costs of any PV manufacturer. The plant will be larger then any other amorphous silicon PV manufacturing facility existing today.

Upon full operation, the plant is expected to have the capacity to produce about 2 million square feet of PV panels. It is expected that most of the output of the facility -- panels 2.5 feet by 5 feet in size, a larger size than at the other Chronar facilities -- will be used for power generation by electric utilities, for industrial applications and for power projects in developing countries. It is anticipated that members of the Sheet Metal Workers International Association will be active in installing the panels in some of these applications.

Chronar also announced that its French affiliate, Chronar France, has suspended negotiations to acquire an additional 30% interest in Photowatt S.A. pending a reconsideration of the original acquisition by Chronar France of a controlling 56% interest in Photowatt in July 1987.

Chronar is the largest U.S. manufacturer of amorphous silicon PV panels, and together with its subsidiaries and affiliates is currently operating one-megawatt batch plants in Port Jervis, New York; South Wales, United Kingdom; and Lens, France. A new batch plant in Birmingham, Alabama, which Chronar manages has recently commenced preliminary operations, a batch plant in Harbin, Peoples Republic of China is nearing completion, and the Company has commenced shipment of equipment for a new batch plant in Split, Yugoslavia. Another one megawatt batch plant proposed for Shenzhen, China (near Hong Kong) is still subject to financing and government approval, both of which have been delayed. Upon full operation of the five batch plants now operating or nearing completion, Chronar will have annual PV capacity of approximately six megawatts.

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FOR IMMEDIATE RELEASE

CHRONAR CORP. SIGNS AGREEMENT IN PRINCIPLE FOR JOINT VENTURE WITH UNITS OF PACIFIC G&E AND BECHTEL

Princeton, N.J., June 2, 1988 -- Chronar Corp. (NASDAQ:CRNR), the largest U.S. manufacturer of amorphous silicon photovoltaic solar panels, today announced that it has executed an agreement in principle under which two additional parties will participate with Chronar and a subsidiary of the Sheet Metal Workers' International Association's (AFL-CIO) National Pension Fund in a previously announced plan to build and operate an advanced photovoltaic manufacturing facility. The proposed partners are PG&E Enterprises, which is a wholly owned subsidiary of Pacific Gas and Electric Company, and Bechtel Development Company.

In the agreement, PG&E Enterprises and Bechtel Development (Bechtel) propose to form a joint venture company with Chronar and the pension fund's subsidiary to be known as the Chronar Photovoltaic Company of California. The purpose will be to build, own and operate a 10 megawatt-capacity panel production plant using Chronar's new semi-automated "Eureka" manufacturing process to produce larger-size photovoltaic panels. Photovoltaic panels convert light directly into electricity.

The agreement contemplates that the venture would be capitalized at $22 million, with $11 million in equity. PG&E Enterprises would invest $3 million, Chronar and Bechtel would invest approximately $500,000 each, and the union pension fund -- possibly with another party agreeable to all partners -- is expected to invest the remaining $7 million. The remainder of the capital is to be in non-recourse debt of the joint venture that is expected to be arranged for by the partners.

The union pension fund, which had already agreed to buy from Chronar for $13 million the equipment and technology necessary for the plant, is expected to transfer its rights in the equipment and technology to the joint venture for the original purchase price of $13 million.

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Bechtel National, Inc., under the agreement, is to be the project manager and prime contractor for the construction of the new facility, which is to be in Pacific Gas & Electric's service area in northern California. Bechtel Development Company and Bechtel National, Inc. are both units of Bechtel Group, Inc.

Chronar will operate the facility and market its output for resale worldwide under a technology, management and services agreement. PG&E Enterprises may also buy some of the output.

Chronar as part of the agreement is to grant to PG&E Enterprises and Bechtel certain rights to participate in the equity and construction roles of future Chronar manufacturing ventures and power generation projects, primarily in North America. Chronar in turn is to enjoy certain rights to supply manufacturing equipment, products and photovoltaic panels for future projects of PG&E Enterprises and Bechtel and may grant licenses to those parties.

The agreement is subject to continuing due diligence by PG&E Enterprises and Bechtel, to the consent of the union pension fund, which was not a signatory to the agreement in principle, and to execution of definitive agreements.

In a separate agreement, Chronar has granted PG&E Enterprises the right to purchase up to 250,000 restricted shares of Chronar's common stock at $7.30 per share until July 31, 1988. Each share would carry a 10-year warrant to purchase six-tenths of a share of Chronar common stock with an exercise price of $9.50 per share. Should PG&E Enterprises in fact acquire and continue to hold 250,000 shares or more of Chronar's common stock, Chronar has agreed to nominate one PG&E Enterprises representative to Chronar's Board of Directors.

Dr. Zoltan J. Kiss, chairman and chief executive officer of Chronar, said: "This proposed joint venture of PG&E Enterprises, Bechtel, the Sheet Metal Workers' National Pension Fund and Chronar is a milestone in the evolution of the photovoltaic industry. Bechtel's worldwide engineering expertise and PG&E Enterprises' status in the United States electric utility industry will be a most helpful factor in the introduction of photovoltaics in the power industry. We at Chronar are gratified by the endorsement of our technology by these leaders in the energy industry."

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This is the first joint venture to emerge under a Memorandum of Understanding signed between PG&E and Bechtel for cooperation in the development of solar energy opportunities. The companies will work with solar equipment manufacturers, developers and other utilities to develop technology, and to identify and implement opportunities to construct, manage, own and operate solar power generation plants.

PG&E and Bechtel are currently designing and constructing the PVUSA (Photovoltaics for Utility Scale Applications) project in Davis, California, and are exploring commercialization approaches for new solar central receiver technology with other utilities. The two companies see the agreement with Chronar as a logical step beyond their cooperation on PVUSA and the Central Receiver Study.

Edward J. Carlough, chairman of the Board of Trustees of the Sheet Metal Workers' International Association's (AFL-CIO) National Pension Fund, said, "I am delighted to have PG&E Enterprises and Bechtel join this venture. Their expertise and their confidence in Chronar's management and technology will be most valuable to making this 21st century technology a 20th century reality."

Mason Willrich, president and chief executive officer of PG&E Enterprises, said: "We are looking forward to working with Chronar on this innovative project to manufacture solar photovoltaic panels in California. We believe that photovoltaics are competitive now in the growing market for consumer products and may be competitive in the future for power generation applications."

Chronar Corp. is a leader in the research, development and commercial production of amorphous silicon photovoltaic panels that convert light directly into electricity. The company develops and sells photovoltaic-panel production equipment and photovoltaic-powered consumer and industrial products, and develops and markets electricity-generating power stations using photovoltaic panels.

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News Release

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FOR IMMEDIATE RELEASE

PG&E ENTERPRISES
PURCHASES STAKE IN CHRONAR CORP.

Princeton, New Jersey, August 3, 1988 -- Chronar Corp. (NASDAQ:CRNR) today announced that PG&E Enterprises (PG&EE), a wholly-owned subsidiary of Pacific Gas & Electric Company (PCG), has purchased 250,000 shares of no par common stock of Chronar Corp. for $1,825,000. The private placement was made pursuant to a right to purchase granted to PG&EE as part of a contemplated joint venture between Chronar and PG&EE and others to build and operate an advanced ten megawatt photovoltaic manufacturing facility in Northern California. The parties are presently finalizing site selection and negotiating definitive joint venture agreements which are expected to be concluded later this year. The facility is expected to commence operations in late 1989 or early 1990.

The stock purchase includes a ten year common stock purchase warrant for 150,000 shares at $9.50 per share. PG&EE has a right to nominate a representative to Chronar's Board of Directors and has designated Mason Willrich, the Chief Executive Officer of PG&EE and an Executive Vice President of Pacific Gas & Electric Company to join Chronar's Board of Directors. As a result of the purchase of shares by PG&EE, Chronar now has approximately 11,000,000 shares outstanding.

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FOR IMMEDIATE RELEASE

CHRONAR TO SELL UP TO $22 MILLION PRIVATE PLACEMENT OF STOCK TO NATIONAL ELECTRICAL CONTRACTORS PENSION FUND

Princeton, N.J.-August 18, 1988-Chronar Corp., (NASDAQ: CRNR) the largest U.S. manufacturer of amorphous silicon photovoltaic solar panels, today announced that it has signed a letter of intent with The National Electrical Contractors Association Pension Benefit Trust Fund for a private placement of its common stock.

Chronar has agreed to sell the fund 1,428,572 of its no par common stock at $7.00 per share on or about September 30, 1988, but in no event later than October 14, 1988. The transaction is subject to completion of the fund's due diligence and execution of definitive agreements, which are expected before the end of September. Chronar presently has approximately 11 million common shares outstanding.

The total proceeds to Chronar from this private stock placement will be $10 million. The fund will not participate in a proposed 10 percent stock dividend, which has a declared shareholder record date of September 2, 1988, and is to be paid on October 3, 1988. The stock dividend is subject to shareholder approval of an increase in the authorized number of shares of common stock of the company, at a special meting of shareholders which has been called for September 30, 1988.

For each share purchased by the fund, the fund will also receive a warrant entitling it to purchase an additional share of Chronar's common stock at a price of $10 per share. Such warrants will be exercisable for a period of 10 years with an early forced exercise should the market price of Chronar's common stock reach $30 per share.

The fund will, upon completion of the initial investment, have the right to purchase, at a price per share equal to 85 percent of the market price, up to $12 million of additional common stock. The purchase may be made in up to three installments on November 30, 1988, January 31, 1989, and March 31, 1989. The market price will be the average price for 20 trading sessions preceding the relevant purchase date. For each share purchased by the fund at the time, the fund will receive six-tenths of a warrant, each full warrant entitling it to purchase an additional share of Chronar's common stock at a price equal to 130 percent of the relevant purchase price. The warrants will have a term of ten years with an early forced exercise should Chronar's common stock achieve a market value equal to three times the exercise price of the warrant.

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Once the fund has has made its initial investment by purchasing at least the initial 1,428,572 shares, it may make an equity or debt investment in any of Chronar's future manufacturing or power station projects in the United States. To the extent the investments are made prior to December 31, 1990, the fund will be entitled to purchase additional shares of Chronar's common stock. The fund is expected to be granted the option of investing in the company's Eureka project, presently planned with PG&E Enterprises, Bechtel Development Corp., and a subsidiary of the Sheet Metal Workers' National Pension Fund, on terms as favorable as those presented to other investors in Eureka.

As long as the fund holds at least one million shares of Chronar's common Stock, the fund will have the right to nominate two persons to serve on the company's board of directors, one of whom will also serve on its executive committee.

Jack Moore, the Secretary of the fund, stated "Our investment in Chronar goes far beyond being simply a good financial decision. It is an investment in an industry segment which we believe will become a source of future employment for our members in a dynamic sector of the energy industry."

Zoltan Kiss, chairman of Chronar, said, "The investment in our company by the Electrical Contractors Association Pension Fund expands Chronar's opportunities and brings us a level of expertise that will help spur our growth and market share as a truly viable alternate energy producer. This fund now joins the Sheet Metal Workers National Pension Fund in a commitment by labor to reindustrialize America by supporting an important new technology here at home."

Chronar is a leader in the research, development and commercial production of amorphous silicon photovoltaic panels, which convert light directly into electricity. The company develops and sells photovoltaic-powered consumer and industrial products, and develops and markets electricity-generating stations using photovoltaic panels.

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News Release

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FOR IMMEDIATE RELEASE

CHRONAR CORP., UNIT OF SEAWEST POWER SYSTEMS, INC. TO JOINTLY DEVELOP ESTIMATED $125-MILLION, 50-MEGAWATT PHOTOVOLTAIC POWER STATION

Princeton, N.J., September 8, 1988 -- Chronar Corp. (NASDAQ:CRNR), the largest U.S. manufacturer of amorphous silicon photovoltaic (PV) solar panels, today announced the signing of an agreement with SeaWest Industries, Inc., a wholly owned subsidiary of SeaWest Power Systems, of San Diego, for the joint development of a 50-megawatt photovoltaic power station.

When developed, the PV power station is expected to be seven times larger than any already existing PV power station, and is expected to generate competitively priced peaking electricity.

The power station, which will be located in the Lancaster-Palmdale area of California, will sell electricity to Southern California Edison Company pursuant to existing Standard Offer No. 4 power purchase agreements. Such agreements pay favorable rates to suppliers of electricity that use specified renewable energy sources.

The successful development of the project will depend on the availability of construction and project financing on favorable terms and the completion of other development steps and regulatory matters. The project will be constructed after specific sales transactions are negotiated with and financing commitments are obtained by third party investors. The project may be constructed as several units depending upon how the sales transactions are ultimately structured. Chronar anticipates that certain of its present investors and partners may participate as third-party investors in the project. The ability of Chronar and SeaWest to attract such investors may be dependent on the continued availability of tax benefits, some of which are now scheduled to expire at the end of 1988.

Chronar anticipates selling the completed photovoltaic power station to third party investors at an estimated installed price of $2,500 per kilowatt of capacity, or $125 million for the entire 50-megawatt development. The actual installed price of any portion of the project will be affected by then-existing tax laws, interest rates, negotiations with investors and lenders, and other considerations. Construction of the project is expected to begin in late 1989 and to be completed in 1992.

The project will use PV modules to be manufactured at Chronar's recently announced 10-megawatt-per-year manufacturing facility to be built in California. To supply additional modules for this project, Chronar anticipates building additional 10-megawatt-capacity manufacturing plants.

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The agreement between Chronar and SeaWest provides for a sharing of the responsibilities, benefits and risks of developing the power station. To make development of the project possible, Chronar has agreed to expend $1.61 million over the next nine months for site acquisition, preparation and other development expenses.

Dr. Zoltan Kiss, chairman and chief executive officer of Chronar, said: "The development of this 50-megawatt PV power station will be by far the single most important event in the history of the photovoltaic industry. It will conclusively demonstrate the viability of photovoltaics as a reliable, cost effective, safe and clean source of electricity." He noted that "the broad development of solar energy is necessary to combat the adverse environmental considerations of burning fossil fuels, such as the greenhouse effect and acid rain". Dr. Kiss also said that "the company will continue to aggressively pursue additional manufacturing capacity and PV power station opportunities in the United States and abroad."

SeaWest is the third-largest developer of wind farms, with the highest capacity factor in 1985, 1986 and 1987 among the 10 largest developers of wind turbine generators, according to the California Energy Commission. To date, it has successfully developed 22 projects with an installed capacity of 160 megawatts, requiring over $200 million in capital. SeaWest, which has been in the development business for seven years, has extensive experience in preparing renewable energy sites for development. SeaWest and Chronar will work closely together on the various aspects of the PV power station project.

Charles Davenport, chairman and chief executive officer of SeaWest, said: "Photovoltaics is a promising new energy source with widespread domestic and international applications. SeaWest views this joint development of 50 megawatts as a major event in the realization of cost-effective photovoltaic grid electricity production through mass production and installation."

Mr. Davenport also added: "SeaWest's expansion into photovoltaics is a natural development into a compatible technology, with similar financial and marketing structure. SeaWest's expansion into photovoltaics is part of a plan to develop integrated renewable energy power systems such as wind, photovoltaic and hydroelectricity for utility grid interconnection."

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FOR IMMEDIATE RELEASE

SHAREHOLDERS APPROVE INCREASE IN AUTHORIZED CAPITAL
10% STOCK DIVIDEND TO BE PAID OCTOBER 3, 1988

Princeton, N.J. -- September 30, 1988 -- Chronar Corp. (NASDAQ:CRNR) the largest U.S. manufacturer of amorphous silicon photovoltaic solar panels today announced that its shareholders had approved an increase in authorized capital from 20,000,000 to 40,000,000 shares of no par common stock at a special meeting of shareholders held at the Company's International Headquarters this afternoon. As a result of the authorization, a 10% stock dividend previously declared but conditioned on the increase in share capital will become effective and will be paid to all holders of record as of September 2, 1988 on October 3, 1988. Fractional shares will be paid in cash at the rate of $10.44 per full share.

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GLOSSARY OF TERMS

Photovoltaics

- *Solar photovoltaic technology* - A technology whereby sunlight is converted directly into electricity by means of solar cells. The conversion of solar energy into electricty distinguishes photovoltaic (PVs) from other solar technologies, such as solar thermal, biomass, ocean thermal and wind energy.

- *Photovoltaic cell* - A device which converts sunlight into electricity by absorbing photons into one or more layers of semiconducting material causing electrically charged particles to flow as an electrical current.

- *PV panel* - A number of interconnected PV cells. These cells can be connected in series or in parallel depending on the desired current and voltage. The PV panel is the basic building block in designing PV systems for most applications.

- *PV array* - An arrangement of interconnected solar panels.

- *PV system* - An integrated set of components designed to convert sunlight into electricity and consisting of photovoltaic arrays (if A.C. is required). Such a PV system has to be "sized" to the particular application/load (water pumping, microwave relays, refrigeration, etc.).

- *Semiconducting thin films* - Thin layers, generally on the order of 1 micron thick (1 micron equals 1 millionth of a meter) of a semiconducting material such as calcium sulfide, amorphous silicon or germanium. These films, which actively convert sunlight into electricity, form part of a photovoltaic cell. Use of This material bypasses the costly steps of growing single crystal ingots (of silicon, for example) and sawing them into wafers. Depending on the material, thin films may be produced in different ways, such as spray coating, glow discharge deposition, thermal evaporation or chemical vapor deposition.

- *Silicon* - A chemical element which is semi-metallic in nature, dark gray in color, an excellent semiconductor material and a common constituent of sand and quartz.

- *Amorphous* - The condition of a solid in which the atoms are not arranged in an orderly pattern as compared to a crystalline condition.

- *Watt hour* - The amount of energy utilized to generate 1 watt of electricity for an hour.

- *Kilowatt hour (kWh)* - 1,000 Watt hours.

- *Peak watt (Wp)* - The unit used to quantify the electricity produced by a photovoltaic device, defined as the maximum electrical output at peak solar intensity, specifically noontime on a clear day.

- *Efficiency* - The extent to which a photovoltaic device can convert sunlight in to electricity, defined as the electricity generated by the device divided by the amount of sunlight falling upon it. The number obtained is expressed as a percentage. Semiconducting materials vary with respect to the amount of solar radiation and what region of the solar spectrum they can absorb.

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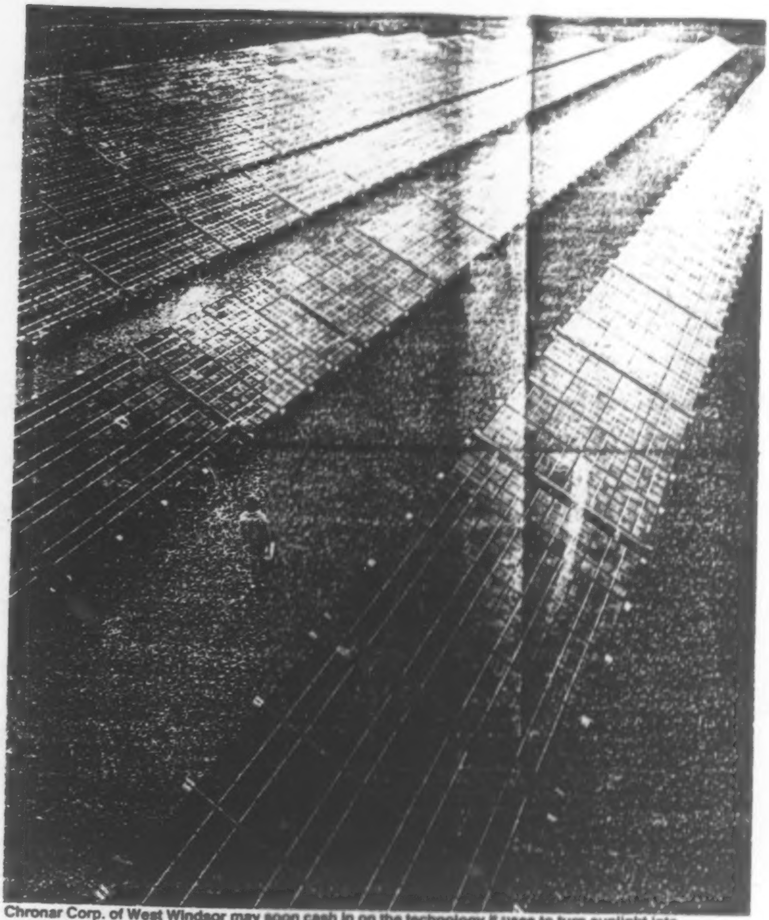
CHRONAR

Chronar on cutting edge of solar energy industry



Chronar Corp. of West Windsor may soon cash in on the technology it uses to turn sunlight into electricity. Chronar sells electricity generated in this solar panel field to the Alabama Power Co.

By JOHN RICHARDSON
Home News business writer

For many investors, Chronar Corp. is involved in a high-risk industry headed down a blind alley. But the West Windsor-based company, which develops technology to turn sunlight into electricity, is about to turn the corner, and some experts feel Chronar's future is bright indeed.

Persistence has guided the company through 12 years of net losses, and Chronar hopes its patience will soon pay off.

The company is on the verge of producing electricity cheaply enough to compete with the oil, coal and nuclear industries, through a yet-to-be built automated manufacturing plant, officials said. Becoming competitive has been the major obstacle for the high-tech, low-profile industry, and the small number of analysts who follow Chronar feel the company's name may eventually become as familiar as Exxon or Public Service Electric & Gas.

"This is going to be the world's largest industry in the next decade," said Dr. Zoltan J. Kiss, the founder and chief executive of Chronar. But, he said, "the tremendous growth potential has not yet been recognized on Wall Street."

The photovoltaic industry, he said, will control a $1 trillion market at the turn of the century, competing head-to-head with the most powerful traditional energy producers. There are now five U.S. photovoltaic manufacturers with sales totaling $300,000 million, according to industry figures.

"By the early 1990s, it will be clear that photovoltaics will be seen as a more cost effective method of generating electricity than either nuclear, coal or fossil fuels," said Kiss.

Industry experts and investment analysts agree about the approaching crossroads and the long-term potential of photovoltaics, a technology which depends on a source that will long outlast other fuel reserves. And, although the company has never turned a profit for more than one consecutive quarter, they said Chronar is in a strong position to lead the way.

Chronar now operates five manufacturing plants around the world, turning out glass panels that contain the photovoltaic cells, and three more are in the planning stage, Kiss said. The company also operates a generating plant in Alabama, which provides power to the Alabama Power Co. during peak demand periods.

200 local workers

The company employs more than 500 workers worldwide and about 200 at its headquarters in West Windsor.

And Chronar is recognized as the leader in developing a cost-effective technology, even ahead of Japanese companies which have directed their resources toward smaller scale uses like calculators, experts said.

"They seem to be on the leading edge of the technology," said Russell E. Miller, an investment analyst with Alex Brown & Son in Baltimore. But the technology is not yet ready to compete with other energy sources for a share in the utilities market, he said. "That's Chronar's big challenge — to develop the market for the (solar-to-electric) cells they're manufacturing."

The company began marketing consumer and industrial products that operated on photovoltaic principles in 1986 to create a market and provide revenues. Its most popular consumer product, a "walk light" that generates electricity, storing it during the day and lighting sidewalks and driveways at night, sells for about $50.

The consumer and industrial product sales will help Chronar achieve a net income for 1988, Kiss said. Chronar, which is traded by the National Association of Securities Dealers Quotation system (NASDO), has reported annual net losses each year since going public in 1981. Chronar reported its largest loss, $6.88 million, in 1986, and 1987 figures have not yet been released.

The company's failure to deliver net earnings — despite several such predictions — has been cited by analysts as one reason its stock performs below the market. Chronar stock peaked at $25 dollars and bottomed at $1 in its 7 years on the market. Since the Oct. 19 crash, Chronar stock has fluctuated around $6, closing Friday at $6.25.

While Chronar is clearly a leader in terms of technology for large scale electricity production, some investors worry it may never cash in.

"I think that people will look back and say Chronar did a good job and got the industry off the ground," Smith said. "But they might say that it's another example of the brilliant scientists that, even though he had a good idea, wasn't able to make a lot of money with it."

But Smith also expects a profitable 1988 for Chronar, which can its products are marketed correctly, he said.

The company expects its new product lines to provide net earnings, but the products are only a means to an end, Kiss said.

The more important breakthrough, for Chronar and for the industry, is the company's planned automated manufacturing plant that will turn out photovoltaic panels at a cost low enough to compete with traditional energy sources.

Chronar announced last month that the Sheet Metal Worker's National Pension Fund would help finance the $20 million plant, which is scheduled to open by April, 1988 at site yet to be announced.

The plant will help Kiss meet his ultimate objective.

"Our long term goal remains what it was, to reduce the cost of photovoltaic panels to the point where it can compete in a cost effective manner with fossil fuels — oil and coal — and nuclear," he said.

Kiss' focus has taken the company from his garage to a position as perhaps world leader in photovoltaic technology.

The Hungarian-born Kiss founded Chronar in 1976, when the only application of photovoltaic technology was in the U.S. space program. Kiss, who studied physics in Toronto and England, worked with laser and early photovoltaic technology at RCA Laboratories in East Windsor.

Chronar was essentially a research operation until it built its Port Jervis, N.Y. plant in 1984, and the company did not market products until 1986. But Chronar has survived — despite cuts in federal research funding since 1981 and dwindling public support since the energy crises of the 1970s — by marketing its technology as well as its products.

The company has sold each of its manufacturing plants, while retaining some equity, to produce income. Chronar also arranged to manage the facilities for a fee, and it buys back the panels to sell again or use for its products.

By creating its own market, Kiss and Chronar have been able to persevere in their quest for large scale electricity production, a goal that soon may be within reach. "That is the ultimate area," said Kiss.

Los Angeles Times
Tuesday, March 8, 1988

CHRONAR

BUSINESS

HARRY BERNSTEIN / Labor

Sheet Metal Pension Fund Sets Example for Innovation

Even though the nation's pension funds lost a bundle in the market on Oct. 19, Black Monday, nearly $2 trillion is still left in reserves for money managers to handle, and they come up daily with ideas for investing those vast sums.

The primary goal must be to manipulate the money so it will increase and thereby help ensure pensions for retirees. But little attention is paid to what should be an important secondary goal: using the money in ways that will better serve workers who are covered by the pension plans but who are still on their jobs.

However, a few of the nearly 800,000 private and public pension programs are run by people with imaginative suggestions for safe ways to do more for workers than simply increase the huge reserves.

Among the most innovative ideas in the country have been devised for the $1.3-billion Sheet Metal Workers National Pension Fund, which is jointly controlled by union and management trustees.

Most of the ideas come from Edward Carlough, president of the relatively small, 147,000-member Sheet Metal Workers Union. Not a self-effacing man, Carlough nevertheless has reason to be pleased with the success of his proposals so far.

They've done so well, in fact, that, unlike most construction industry unions, the Sheet Metal Workers Union is increasing its membership, which is expected to top its 1978 record of 152,000 by the end of the year.

The membership increase is partly due to cooperative efforts by the union and industry to keep labor costs down in the face of rising non-union competition. But another significant factor is the clever use of some of the pension fund money.

About $75 million has been invested in companies that are bringing a nice return to the pension fund and are creating jobs for sheet metal workers by developing ways to, among other things, increase the use of solar energy and find safe methods to remove life-threatening asbestos from homes, schools and office buildings.

For example, pension reserves have been used to buy about 30% of Chronar Corp., based near Princeton, N.J. Chronar is building what Carlough says will be the world's largest "amorphous silicon photovoltaic" manufacturing plant.

The fund will own the plant that Chronar will manage and also market the photovoltaic cells that turn sunlight into electricity. And sheet metal workers will fabricate and install the product.

"Labor & Investments," a newsletter published by the AFL-CIO industrial union department to keep track of unions' financial investments, says the sheet metal workers' pension fund is the only one making major equity investments in corporations that manufacture products used in jobs held by pension plan participants.

The sheet metal fund also bought 30% of Acmat Corp. based in East Hartford, Conn., a heating, ventilating and air-conditioning company that recently entered the rapidly growing asbestos-removal business, which is providing jobs for sheet metal workers.

But Acmat, like other asbestos-removal firms, is facing increasing trouble buying liability insurance for its asbestos jobs. To help solve that problem, pension funds were used to buy a 30% stake in United Coastal Insurance, which offers the mandated asbestos insurance policies.

Another innovative idea was to devise a way to help contractors get performance bonds that small firms often have trouble obtaining. To achieve that goal, the pension fund-financed Acmat last week announced

Please see BERNSTEIN, Page 22

HARRY BERNSTEIN

Continued from Page 1

plans to buy a subsidiary of John Hancock Holding that will offer bonding to qualified asbestos abatement contractors.

Randy Barber, a financial consultant to unions, complains that far too little has been done by unions to make sure that pension fund administrators invest fund reserves not only to protect retirees but also to help active union members.

But he said Carlough and other trustees of the sheet metal pension fund "are doing some exciting, pioneering things that can serve as examples for other unions around the country."

Usually, almost all of the enormous amounts of money in the nation's pension funds are put into "safe" investments such as stocks, bonds and government securities by money managers, who often make small fortunes for themselves in the process.

But relatively small amounts of those vast sums trickle into job-creating construction loans that directly benefit active workers covered by pension plans.

Jobs are opened for construction workers when a construction industry pension fund simply makes a loan to a developer. The developer then hires a building contractor, who hires construction workers. The contractor, in turn, makes pension fund contributions for his workers, thus putting additional money into the fund.

Much more use should be made of money set aside for workers for their retirement to create jobs for them as long as the fund trustees don't violate their fiduciary responsibilities by careless, high-risk, low-return investments.

But much more can be done, as the sheet metal fund trustees are showing, to find other equally intelligent methods for using the huge pension fund reserves for the benefit of workers other than simply investing them in the traditional fashion.

Harbrant Is Honored for Service to Scouts

Unions have fallen on hard times in recent years, and they will not suddenly begin to flourish after May 20, when Robert Harbrant, a dedicated labor leader, is presented with the Silver Buffalo award for "distinguished service to youth" by national officers of the Boy Scouts of America.

But the award does symbolize the first chance unions have ever had in the 78-year history of Scouting in the United States to teach millions of Scouts the positive story of organized labor's role in the economic, social and political life of this country.

And to stop the erosion of their strength, unions need to get their story across to America's youth, the source of their future membership. Sadly, the public schools teach almost nothing about labor unions.

Harbrant, head of the AFL-CIO food and allied services trade department, spearheaded a lengthy campaign to persuade Boy Scout leaders to create a labor merit badge, and the success of the campaign will be marked in ceremonies in San Diego where Harbrant will receive the award. (Other 1988 recipients of the Silver Buffalo include First Lady Nancy Reagan, who received it in January.)

More than 20 years ago, America's business community won the chance to present its most favorable side to Boy Scouts when a business merit badge was created. But when Harbrant and others sought equal treatment for labor, there was strong, often strident opposition.

One draft of the badge requirements designed to help Scouts learn about the American labor movement was completed in 1985. But that was derailed because critics said it didn't ask Scouts to learn about the non-union sector of the work force.

The final battle in what has been tagged "the great badge war" came at a meeting of 19 corporate executives who make up Scouting's special merit badge committee.

The executives indicated that they would approve the labor merit badge only if Scouts were required to learn about allegations of corruption of unions as well as their achievements, according to professor Arthur Shostak, a Drexel University sociologist who has followed the badge war closely.

Harbrant agreed to the idea if, in turn, the corporate executives would add a requirement to the business merit badge spelling out the corporate corruption and white-collar crime "directly linked to the companies of the very businessmen trying to decide the fate of the labor badge," according to Shostak.

That ended the argument: The corruption that exists in both labor and management was not included in the merit badge program.

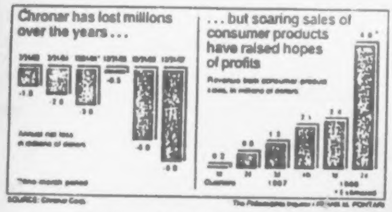
A 47-page "American Labor" pamphlet has just been issued so that any of this country's 5 million Scouts who want a labor merit badge to help them advance in the ranks of Scouting can get it by learning the story of unionism in the United States.

The Silver Buffalo award to Harbrant is quite appropriate for such an achievement.

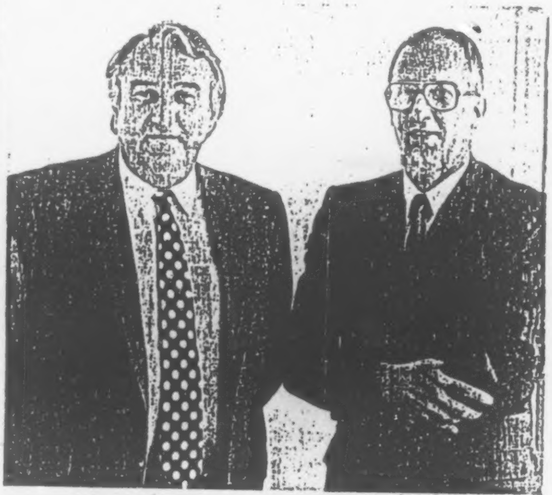
CHRONAR

MONDAY
August 15, 1988

The Philadelphia Inquirer
PHILADELPHIA BUSINESS
A weekly report on business and the economy in the metropolitan area



Chronar draftsman Frank Herdt at work on a project.



Chronar's CEO, Zoltan J. Kiss (left), and president, Jon K. Clemens.

Finally, dawn breaks for N.J. solar firm

By Don Stets

A funny thing has happened at Chronar Corp., a small solar company on a country road outside Princeton. Chronar has started making a profit.

While that would not seem unusual for most businesses, it is something extraordinary for Chronar. The company has had only one other profitable year, 1980, when it earned a penny a share.

The firm has been in business for 12 years and has a balance sheet that would drive most executives to the brink of despair. Not Zoltan J. Kiss, Chronar's Hungarian-born chairman and chief executive officer.

Kiss (pronounced Kish) does not dwell on the past. He has his eyes on the future. What he sees is a trillion-dollar market for his company by the turn of the century. Chronar makes amorphous silicon photovoltaic panels.

"We believe that photovoltaics are the next energy source. We believe that on a global scale, there is no other alternative," said Kiss in an interview last week in his office.

To Kiss, a 56-year-old physicist, the lean years were necessary and inevitable.

Chronar grew from an idea — using amorphous silicon for photovoltaic panels — to the development of products in which the panels could be used. Along the way, the company invented both the manufacturing process and the manufacturing equipment for the panels.

Now the years of struggle are beginning to pay off. Kiss said the company reported an operating profit for the second quarter and expected to report one for the year. Second-quarter earnings were $1.9 million, or 18 cents a share, including extraordinary items. So far, the company has paid dividends only in shares of stock.

Kiss, who founded Chronar in 1976, is one of those entrepreneurs whom analysts describe as having vision. However, the question for a dozen years has been whether that vision could come down to earth long enough to make a profit.

"I think this time they are really are going to do it," said Charles T. Maxwell, senior energy strategist for C.J. Lawrence/Morgan Grenfell in New York City.

Maxwell predicts that Chronar will make operating profits of about 20 cents a share this year, 60 cents a share next year and a dollar a share in 1990.

"I think that they have broken clear," said Maxwell. "It is always a question of heavy costs at first, but when revenues go through those costs, they tend to rocket through. I think that is what we are going to see here."

(See CHRONAR on 7-D)

Solar firm spots light at the end of a long tunnel

CHRONAR, from 1-D

John Westergaard, a managing director for the investment-banking firm of Ladenburg Thalmann & Co. Inc. in New York City, said Chronar was a prospect to watch.

"The fact is that if it can make solar energy on economic terms, this is probably the company with the most open-ended potential over the next several decades. It truly is," he said.

The stock has bounced in a range of $4 to $12 a share for the last 12 months and has been selling most recently for about $8 a share.

The cause of Chronar's recent success is a modest but extremely popular consumer product — a solar-powered outdoor light called the WalkLite. In 1987, the company sold 140,000 of the lights. Already this year it has sold more than 300,000 of them.

Company executives are surprised at the popularity of the light, which sells from about $35 to $60.

No wiring needed

It's advertised as the first-ever solar-powered outdoor light, and it can be installed in gardens and along walkways without the hassle of wiring. It collects sunlight during the day, turns it into electricity that is stored in a battery, and then, at night, the light goes on.

Jon K. Clemens, Chronar's president and chief operating officer, said the the company's revenues from consumer sales had rocketed. They went from only $127,000 for all of 1986 to about $6 million for just this year's second quarter. Revenue from consumer sales will be about $25 million for this year, according to Kiss.

The company has other consumer products, including a solar-powered handlight, a key-chain light and solar-powered chargers that can be used to recharge a car battery when the car is idle.

New products will be introduced soon, including solar-powered house numbers that light up at night and a solar-powered sentinel light that turns on when someone walks in front of an infrared switch.

The company expects to soon begin enjoying some earnings from industrial products, including billboard lighting and solar-powered pumping systems.

But the key to the company's future is solar-powered generating plants that electric utilities could use in the United States to meet peak summer demand and that could be used in remote regions abroad to introduce electricity.

'Wide open'

"Once we demonstrate that we can build a cost-effective, photovoltaic power station, we believe that the photovoltaic industry is wide open and this growth that we talked about is possible," said Kiss.

"The company, in my view, has the best technology for producing solar power," said Russell E. Miller, an analyst with Alex. Brown & Sons in Baltimore.

"In my view, it is getting close to the point where it will be able to compete with other sources of power such as nuclear energy and coal," he said.

Earlier photovoltaics were made out of more expensive silicon crystals. Chronar uses lower-cost amorphous silicon — in a so-called thin-film process in which the silicon is sprayed on glass. The company believes that it has at least a one-year lead over competitors in the United States and Japan in the technology.

Photovoltaic cells convert sunlight directly into energy. When the photons in the sun's rays strike the photovoltaic cells, they activate electrons in the silicon that are harnessed into a current of electricity.

Twenty years ago, solar cells were used only to power satellites in space. The cells were extremely expensive, costing more than $100 for each watt of electricity produced, according to analyst Maxwell.

Just five years ago, the cost was down to about $10 to $12 a watt for fully encapsulated solar panels ready to produce electricity, said Maxwell. But now the cost has come down to about $4 a watt, he said.

At that cost, photovoltaics are beginning to be competitive with the prices paid by utilities to produce electricity for peak demands, particularly to handle summer air-conditioning loads, said Maxwell.

Utilities pay about $2.40 to $3.70 a watt to install power stations. (A large nuclear plant produces about 1,000 megawatts, or 1 billion watts.)

Chronar says its manufacturing cost for the panels has dropped to less than $1 a watt. Next year, the company plans to open a manufacturing plant — the so-called Eureka project — in California, where it expects to lower costs even further.

Also next year, Chronar plans to build a 50-megawatt power station in California. The location and partner for the project have not been announced, but Kiss predicts that the plant will demonstrate the feasibility of a commercial solar-power station.

Chronar already has a small, experimental station in Birmingham, Ala., that is producing about 60 kilowatts of power and has proved to be an "unqualified" success, Kiss said.

Impressive partners

For the new, $22 million manufacturing plant in northern California, Chronar has lined up impressive partners with deep pockets: Pacific Gas & Electric Co., Bechtel Development Co. and the National Pension Fund of the Sheet Metal Workers' International Association.

"This is quite an endorsement for our technology. These guys don't do things lightly. They do a lot of homework," said William M. Beecher, Chronar's vice president.

Chronar employs about 380 people in the United States, including 300 at the headquarters and research center in New Jersey, with the rest at manufacturing operations in Port Jervis, N.Y., and Birmingham.

In addition, the company has embarked on joint partnerships that built plants in South Wales, France and China. Other plants are under construction in Yugoslavia and Hong Kong. Another will begin soon in Taiwan.

Company executives believe that manufacturing abroad will give Chronar penetration into the biggest potential market for photovoltaics: lesser-developed countries.

"There are thousands and thousands of villages on either side of the equator that have no electricity, through South America, Central America, Asia and Africa — something like two billion people or more who are not connected to the grid," said Beecher. "The only way it makes sense for these people to receive electricity is through photovoltaics."

According to Kish, by early in the next century, the world will need to double its current electrical-generating capacity to keep up with demand. That means it will need 2,000 more gigawatts of power — the equivalent of 2,000 nuclear power stations.

If photovoltaics can fill just 10 percent of that need, it would translate into a $1 trillion-a-year industry, he said.

The New York Times
FRIDAY, SEPTEMBER 9, 1988

CHRONAR

Business Day

Chronar Plans Solar Power Plant in West

By MATTHEW L. WALD

In a landmark in the development of solar power, a company that currently makes patio lights powered by the sun said yesterday that it would build a $125 million plant in the desert near Los Angeles to make large amounts of electricity directly from sunlight.

The power would be sold at a profit to the Southern California Edison Company, under a rate established several years ago to encourage production of energy from renewable sources.

The Chronar Corporation of Princeton, N.J., said its plant would be seven times larger than any existing power station of its type, which is called photovoltaic. The plant will be built in partnership with a San Diego company, Seawest Industries.

50 Megawatts of Power Planned

The Chronar plant is expected to produce 50 megawatts, or 50,000 kilowatts, of power at peak capacity. That would provide enough power for typical use in 25,000 homes. A large coal plant produces about 600 megawatts, a nuclear plant about 1,000 megawatts.

The plant will be built in the Lancaster-Palmdale area, about 60 miles east of Los Angeles.

Other small plants are already in service that use sunlight to boil water, with the steam used to produce eletricity.

"This would be a substantial milestone," said Edward S. Sabisky of the Solar Energy Research Institute, which is financed by the Department of Energy.

Mr. Sabisky said that Chronar's announcement was only the latest in a rapid series of developments this year in the solar field, in which Chronar and two other companies have each announced plans to build large new manufacuturing plants to make additional cells.

An Energy Department spokesman, Roger Meyer, said new mass production of the solar cells had apparently permitted an important reduction in cost, which he described as a "breakthrough." He added, how-

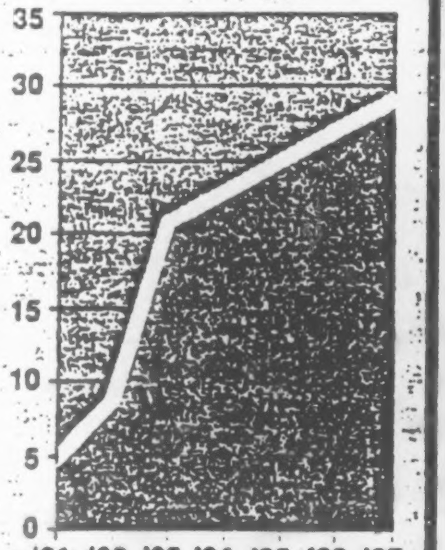
Continued on Page D6

A $125 Million Solar Plant Is Planned for California

Continued From First Business Page

Solar's Growth

Worldwide shipments of cells that make electricity directly from sunlight. Total capacity, in thousands of kilowatts.



Source: Solar Energy Research Institute

ever, that the technology to be used was not new, nor was it the most advanced available.

Chronar's cells, of a type called amorphous silicon, can convert only 5 to 6 percent of the sun's energy to electricity; a company called Energy Conversion Devices of Troy, Mich., has developed cells consisting of several layers that has an efficiency of 13.7 percent and has succeeded in licensing its technology for use abroad for $15 million.

But its cost per watt of capacity is higher than the figure estimated by Chronar for its new plant.

"Photovoltaics are everybody's dream answer to energy needs," said Chronar's founder and chariman, Zoltan J. Kiss, in a telephone interview. "The problem was, it was always too costly."

Until now, the cost of photovoltaic cells has been considered too high to compete with conventional energy sources like coal and oil. Many companies have found a niche by providing power sources for locations cut off from the power grid. Chronar, the only domestic manufacturer now operating profitably, has found success in patio and walkway lights, which use the sun to charge a battery during the day and then switch on at dusk. In June, the company shipped 100,000 such lights under its own brand name, Mr. Sabisky said.

While the Chronar plant would dwarf other photovoltaic facilities, another company, Luz International Ltd., has four 30-megawatt plants already on line.

Luz sells power to Southern California Edison under the same kind of contract that Chronar will use, under a structure established in the early 1980's to encourage alternative energy sources. According to R. Dean Gallagher, senior project development manager for Southern California Edison, the structure set the price to be paid by the utility at relatively generous levels.

With the collapse of oil prices in 1986 and other developments, he said, "at this point in time, it's very uneconomical for our ratepayers."

WALL STREET JOURNAL
Friday, November 25, 1988

Chronar's Chairman Placing Two Big Bets On His Vision of a Solar-Powered Future

By RICHARD KOENIG
Staff Reporter of THE WALL STREET JOURNAL

PRINCETON, N.J.—Zoltan Kiss still keeps a sketch given him by jesting colleagues when he left a job as a research physicist. Entitled "Zoltan's Last Supper," it shows robed figures around a table, with one muttering to himself, "Hallelujah, we won't have to hear that dreaded word 'breakthrough' again."

"Oh Lord," the caricatured Mr. Kiss prays, "deliver me from these imbeciles."

Mr. Kiss, the founder, chairman and chief executive officer of Chronar Corp., has spent much of his adult life trying to persuade a skeptical world to believe in technological innovations, from lasers to the liquid crystal displays in watches. His current sermon: the potential of solar energy.

Panel-Making Plant

Mr. Kiss (pronounced Kish) sees a future where photovoltaic panels, the window-shaped cells that soak up light and send out electric current, bedeck the roofs of whole neighborhoods and stretch across open land in vast arrays. Toward that end, Chronar plans to build one of the world's largest panel-production plants next year. What's more, the company hopes to construct the world's largest photovoltaic generating station by sometime in 1992.

"Zoltan is obviously trying to push the technology extremely fast," says David Carlson, an executive at Amoco Corp.'s solar-energy subsidiary. "He's really sticking his neck out."

Though the history of solar energy is strewn with great expectations gone bust, photovoltaic technology in recent years has gained more commercial uses, in devices such as calculators and battery chargers. But the market for large-scale power generation—the potential Comstock Lode for photovoltaics companies—has barely been tapped. And that is where Chronar is heading.

The significance the company attaches to its new panel plant, to be built in the northern California town of Fairfield, is reflected in its name—the Eureka plant. Chronar bills it as the sort of automated production line needed to slash costs and thus help make photovoltaic technology more competitive with fossil and nuclear fuels. Although the plant's panels could be put to a variety of uses, the company hopes many will wind up in solar generating stations.

The generating station that Chronar envisions, which would sprawl over 500 desert acres outside Los Angeles, is meant to show that such plants are commercially feasible. The company hopes to sell the electricity to a utility during periods of peak demand.

Chronar, which had a loss of $1.1 million for this year's first nine months on revenue of $26.8 million, may seem an unlikely company to express such audacious intentions. Founded in 1975, it is a midget in a field that includes Amoco and Atlantic Richfield Co. But the 56-year-old Mr. Kiss, who left the laboratories of RCA Corp. for the up-and-down fortunes of a scientist-entrepreneur, rejects any notion that Chronar can't deliver. "We don't build card castles," he says.

Indeed, he has traveled the world doing deals in which Chronar provides equipment and knowledge to build panel-production plants. There are now six—in Port Jervis, N.Y., and Birmingham, Ala., and in Britain, France, Yugoslavia and China—though Chronar holds only minority stakes in five of the plants.

And Mr. Kiss has been raising cash and winning allies by selling stakes in the company. Two partners in the Eureka plant are also shareholders: a subsidiary of Pacific Gas & Electric Co. and the pension fund of the Sheet Metal Workers' International Association. (For the union, panel installation promises jobs.)

Promise has never been lacking since scientists began to harness the "photovoltaic effect": Light energy excites electrons in semiconductors, such as the silicon typically used in panels; the current thus set in motion is then channeled into circuitry by "doping" the silicon with chemicals that establish an electric field.

The drawback of solar energy is cost. Over the past decade, prices of photovoltaic panels, in constant 1987 dollars, have dropped to about $5 a watt from $50. But to make a dent in the utility market, many energy specialists say, prices would have to plunge to $1.

Like many other plants, the Eureka facility will use so-called amorphous silicon technology, which gives up some efficiency in capturing solar energy for lower production costs. What will set the Eureka plant apart from earlier Chronar projects is automation: Conveyor belts instead of people will move the panels among chambers where silicon and other substances are deposited onto glass backings. Mr. Kiss estimates this will cut production costs in half.

The plant, scheduled for completion in the second half of next year, would also represent a huge increase in panel-production capacity. Expected to occupy 75,000 square feet and cost $22 million, it would be capable of annual production of panels with total power of 10 megawatts. That is about one-quarter of panel production world-wide today.

The generating station, too, would represent a leap in scale. It is to be rated at 50 megawatts, or the equivalent of power used by a community of 15,000 to 25,000 people. That's more than seven times bigger than the largest existing photovoltaic generator, a project of Atlantic Richfield's Arco Solar Inc.

Can Chronar pull it off?

Not only Mr. Kiss but other photovoltaics specialists believe solar technology eventually will gain more applications in the utility market. Whether progress can keep pace with Mr. Kiss's goal of starting up the plant by 1992 is the question.

Mr. Kiss's projections of the panels' costs are in line with some estimates of what it will take for photovoltaics to compete against the price some utilities pay others for electricity during periods of peak demand—and against the cost of adding conventional generating capacity. Yet those estimates often assume that the panels will convert at least 10% of solar energy to electrical energy. The initial panels from the Eureka plant are expected to have a conversion rate of about 5%.

Cutting Installation Costs

Mr. Kiss says technological advances will eventually boost conversion ratios. More important at the outset, he says, is slashing installation costs. One example: using telephone poles instead of concrete pylons to hold up the panels.

First, though, he has another selling job. Chronar has found one partner in the generating station, SeaWest Power Systems, until now mostly a developer of windmill farms. But the venture still must line up some $125 million in funding. Prospective investors may wait to see whether the station gets to charge high rates for its electricity under a state program meant to nurture renewable energy sources.

The local utility, Southern California Edison Co., is balking, since regulators who set the rates years ago assumed rising oil prices. It says those rates are now several times higher than what its additional costs would be if it simply fired up its own idle generating capacity during peak periods. The two sides are still negotiating, but the issue could yet end up before regulators or in the courts.

For all his ups and downs, Mr. Kiss is becoming a figure that others no longer ignore. The giant engineering concern of Bechtel Group Inc., for one, plans to help build the Eureka panel plant partly to keep up with solar-energy technology.

As for the generating station, it "is still a dream in Zoltan Kiss's eye," says Pat De Laquil, Bechtel's solar-energy specialist, "but not an impossible dream."

Forbes
DEC 12 1988

CHRONAR

Is widespread use of solar energy just a slender, distant hope? Not if one can believe Zoltan Kiss. Chronar's founder says solar is getting closer to competing with fossil fuels for generating electricity.

Solar energy—getting hotter

By James Cook

ZOLTAN J. Kiss is close to cashing in on a decade of breathtakingly hard work. A volatile and voluble man, Kiss is chairman of Lawrenceville, N.J.'s Chronar Corp. In Chronar, Kiss has put together the U.S.' largest and most successful producer of amorphous silicon photovoltaic cells, those 1-by-3-foot panels that spontaneously transform light into electricity, and that for Chronar seem at last about to pay off.

Mail-order-catalog buffs are already familiar with at least one Chronar product, those solar-powered garden lights that require no wiring. But these are just frills. Chronar is into far more important stuff. Like winning a fair share of the world's future electricity market.

"To develop the technology for amorphous silicon," Kiss says, "we had to identify the manufacturing process, then build the equipment, because it didn't exist. Then raise the money and set up the factories. You couldn't have a product until you had the panels to put into product. One step after another. It took us a decade of incubation to get that far."

Photovoltaics long ago proved themselves in space, but costs were so high their commercial development has been slow in coming. All that is changing, thanks to the development of microscopically thin, amorphous noncrystalline coatings on glass, steel, aluminum or plastics, which cut production costs dramatically. With its costs continuing to decline, solar energy shapes up as the most benign answer to the world's growing energy and environmental problems.

There are other players in the photovoltaic business—Arco Solar, Energy Conversion Devices and Amoco's Solarex division, among others—but Chronar has gone further in bringing photovoltaics to the point of commercial development than any of its competitors. Either directly or through joint ventures abroad, Chronar can now manufacture 10,000 kilowatts of generating capacity a year and should have twice that next year.

Chronar's Kiss and a working photovoltaic panel
From walkway lights to power stations.

Ten thousand kilowatts may not seem like much considering that the average new conventional power station runs around 600,000 kilowatts these days, but then Edison's original Pearl Street generating station started with only 360 kilowatts of capacity.

For Chronar, the explosion has already begun. Having diddled around at under $1 million in annual sales for nearly a decade, Chronar booked $11 million in 1986, $17 million in 1987, and should wind up with some $35 million this year and $70 million or more in 1989. "We're at the place where the company's sales are doubling," Kiss says, "and I think the doubling will continue at least for the next three or four years." That's a tall order. Keeping that up would make Chronar a half-billion-dollar-a-year company within a very few years.

Part of Chronar's growth has come from sales to affiliates of equipment for manufacturing solar panels. But Chronar is manufacturing more and more end products: Besides the walkway and garden lights for the consumer market, there are billboard lights, highway lighting and water pumps for industrial markets, especially in areas beyond the reach of conventional power sources. Last year Chronar sold only $4 million worth of consumer products. This year it will sell about $13 million. Last year it sold no industrial products. This year it will sell over $1 million. Next year, depending on the rate of market development, it should sell $10 million or more.

Best of all, after piling up more than $20 million in losses in the past five years, Chronar will probably break even this year though nine-month earnings were still $1.1 million in the red. "For ten years we were in the development stage," Kiss says. "We are now at the point of turning into the black, and from now on we expect to be profitable."

A physicist by training, Kiss left his native Hungary in 1950 at the age of 17, picked up a Ph.D. at the University of Toronto, and wound up in the early 1960s as head of quantum electronics research at RCA Laboratories in Princeton, N.J. He quit RCA Labs in 1969 to start a liquid crystal display outfit called Optel, quit again in 1976 when Mitsubishi gained control of the company. He went out on his own, choosing photovoltaic technology and putting up $40,000 of his own money to found Chronar in 1976.

Half the battle has been finding the money to finance the losses inevitable in any high-tech development business, and it didn't help any that a few years ago the SEC went after Chronar and its accountants for what it considered fraudulent accounting practices. That stalled Chronar for a time, forcing the cancellation of a $12 million public stock offering. Kiss eased his financial problems by setting up joint-venture manufacturing partnerships around the world and in the last year or two has picked up a handful of well-heeled backers. These include Birmingham construction tycoons John and Bill Harbert (who made a $5 million equity investment), the Sheet Metal Workers' pension fund ($7.5 million in equity, $7.5 million in loans), the National Electrical Contractors' pension fund ($10 million in equity) and most recently Pacific Gas & Electric ($1.8 million).

Chronar can already compete, Kiss claims, with small-scale diesel generators ranging up to 50 kilowatts, producing electricity for 25 to 35 cents per kilowatt-hour, versus 30 to 50 cents for the diesels, depending on their size and other factors. And that, says Kiss, opens up a $5 billion market. But the really big market is yet to be conquered—the one served by large-scale coal- or nuclear-fueled systems, which retail power at under 7 cents a kilowatt-hour. If photovoltaics can crack that, the potential is incalculable but surely vast. To judge by the huge short interest in Chronar's stock, not everyone agrees.

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As Kiss likes to point out, photovoltaics is a modular technology. To increase capacity, you don't build larger plants, you just keep adding panels and interconnecting them. You don't have to hook into the utility grid. Photovoltaics can operate independently and effectively on their own. Chronar itself is putting a 60-kilowatt station on the roof of its New Jersey headquarters, which will generate power for about 20 cents a kilowatt, comparable to the 19 cents the local utility, Public Service Electric & Gas, charges at its summer peaks.

To crack the big-scale utility market, Chronar will have to do a lot better than that. The principal cost in photovoltaic power generation is the cost of the capital needed to produce and install the photovoltaic panels, and though Chronar has reduced such costs by a third in the past 18 months, it's far from enough. Chronar has recently worked out a $25 million joint venture with Bechtel, a Pacific Gas & Electric subsidiary and a Sheet Metal Workers' pension fund subsidiary to build an automated manufacturing plant, slated to go into operation next year, that is expected to cut the direct cost of manufacture by 50%. At that level, Chronar can install a power station for $2,500 a kilowatt and make a decent profit. Says Kiss: "We will have brought the cost of manufacturing down to the point where we can generate electricity in the 10-to-12-cents-a-kilowatt-hour range." That's still not enough: The utility industry generates power at a fully loaded average cost of approximately 6 cents per kilowatt-hour.

Nevertheless, Kiss is so confident that the economics of the new plant will prove out that he is working out another joint venture with SeaWest Industries, a California wind power company, to build a proposed $125 million, 50,000-kilowatt photovoltaic plant that will sell power to Southern California Edison during peak periods. Under legislation designed to encourage the use of alternative energy sources, the rates will range up to 11 cents a kilowatt-hour in 1989 and up to 24 cents in the year 2000.

At such prices, Chronar begins to move in on its utility targets, and Kiss is confident that within five years he'll be able to reduce costs another 50% by doubling the efficiency of the photovoltaic panel. If he succeeds—and that may not be so easily done as he claims—Chronar will be able to generate power for under 7 cents a kilowatt-hour, and the long-awaited breakthrough will be achieved.

It may not happen, but neither is it implausible. San Francisco's Pacific Gas & Electric is persuaded enough that it bought a 250,000-share stake in the company. "If solar panels make the economic breakthrough necessary for them to become marketable," says Richard Clarke, chairman of the big utility, "I want PG&E people installing them for our customers."

Clarke says "if," but for Kiss there are no "ifs." He foresees the day when photovoltaics will be used in the electrolysis of water to produce cheap hydrogen for fuel cells and combustion engines, opening up to photovoltaics not just the market for electricity but also the transportation market. Eat your heart out, OPEC.

Kiss becomes almost lyrical when talking of the future. Says he: "I believe photovoltaics will ultimately be the world's primary energy source, and it's just a question of how rapidly the cost can be brought down." ■